

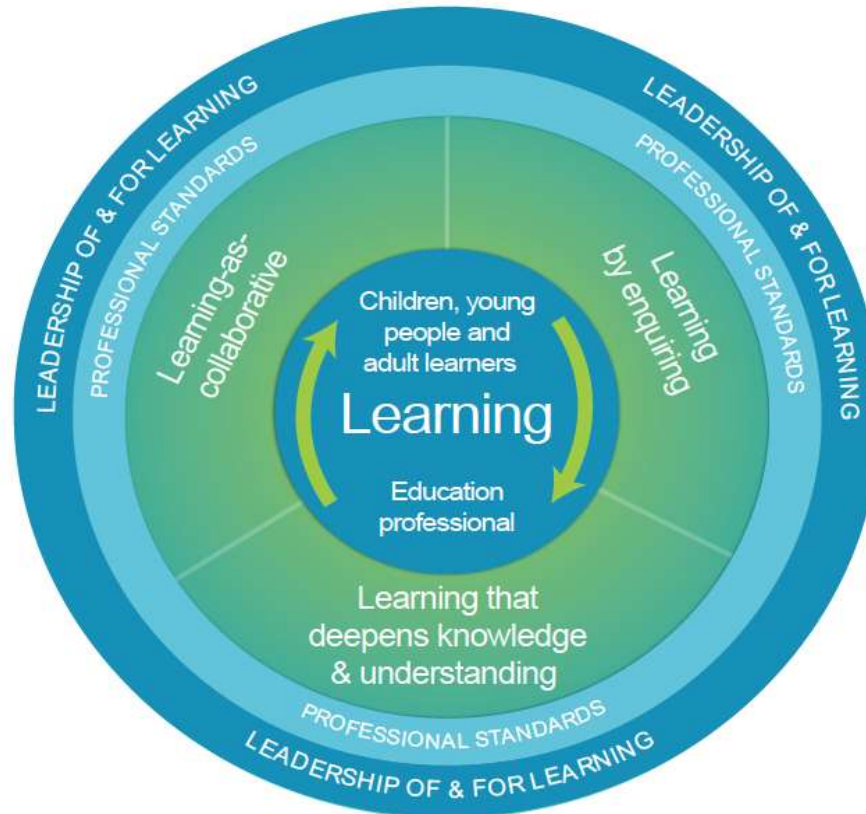


Let's Talk about Innovative & Inclusive Pedagogies

University of Edinburgh Teacher Education Partnership

Tweet: @UoeTEPartners @MorayHouse #UoETEPLetsTalk

National model of professional learning



Professional learning must focus on the education professional as a learner and how this is related to and impacts upon the learning of children, young people and adult learners.

Professional learning should be:

- Challenging, and develop thinking, knowledge, skills and understanding
- Underpinned by developing skills of enquiry and criticality
- Interactive, reflective and involve learning with and from others.

Professional learning is informed and supported by professional standards and education policy.

Leadership of and for learning is essential to ensure it is well supported, promoted and sustained.




CULTURALLY RESPONSIVE PEDAGOGY- DOES IT MATTER?

PROF ROWENA ARSHAD
UNIVERSITY OF EDINBURGH



Given that....

- **BME pupils do better than Scottish White pupils**
 - **Scotland is a welcoming country – we do not have a hostile political or policy narrative**
- 

DIVERSE TEACHERS FOR DIVERSE LEARNERS

- **Egalite, Kisida and Winters (2015)** – covering 2.9 million public school pupils in Florida over 7 years. Concluded – where there was ethnic or colour congruence, BME pupil test scores went up marginally. Most pronounced in primary schools and pupils labelled as ‘low performing’
- **Gershenson, Hart, Lindsay and Papageorge (2017)** Followed just over 106,000 students from Grade 3-10 in N. Carolina. Impact of long-run exposure to teacher diversity on black pupil esteem and aspirations. Went on to look at impact of teacher bias.

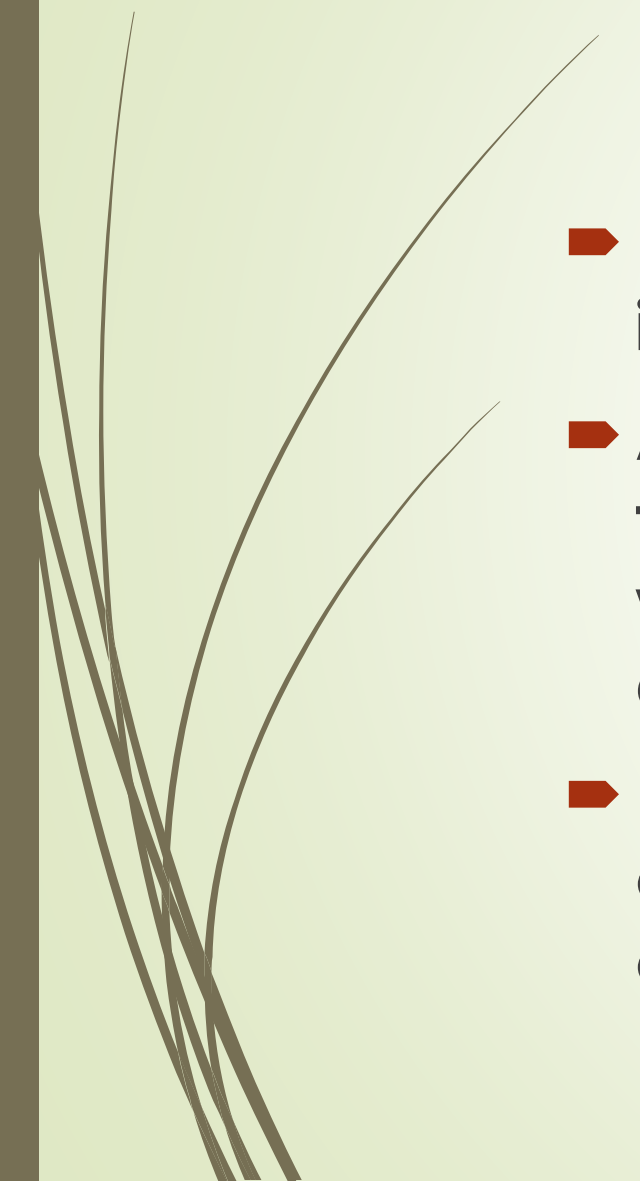
Culturally Responsive Teaching (1)

- Gloria Ladson-Billings (1994)
- *Culturally responsive teaching is a pedagogy that recognises the importance of including students' cultural references in all aspects of teaching.*
- 19th and 20th June 2019






Professional responsibility

- 
- If the experiences of BME pupils can be further improved – we should make it happen
 - All pupils needs to develop cultural competence as they move into a diverse world and the world of work. Without these soft skills, they will be at a disadvantage
 - Producing agentic pupils – developing a consciousness to question and to improve as well as challenge the society in which they live in



Tylo

(male, 16-18, Scottish Algerian, Muslim, Glasgow)

- ➡ ***'I don't mention it too much because people can become very kinda judgmental about it... if they found out that you're Muslim. I kinda just act as if I'm normal.'***
- 



What is said about the benefits of Culturally Responsive Teaching


- **Culturally relevant teaching promotes academic achievement and engagement** e.g. use of real life examples in the curriculum has sparked interest in the subject area
- **Culturally relevant teaching promotes critical consciousness** – discussions about bias in a science class (skin colour and pigmentation) is broadened to larger society; pollution in a nearby river and people activism/active citizens
- **Culturally relevant teaching can promote a positive attitude towards others as well as a positive self-identity** – work of Thomas, Davidson and McAdoo (2008) – African American girls in a culturally rich school gaining in self-esteem and commitment to advancements as compared with a control group that did not have those experiences




Three aspects

- **Culturally responsive attributes** – Teacher Values, Attitudes and Positionality
- **Culturally relevant content**
- **Culturally responsive teaching** - classroom ethos, instructional practice

- Needs all three – having Culturally responsive teaching alone is not enough
- Needs critically aware teachers who are prepared to understand context and lived experiences



**The cultural
competence of the
adults is intimately
connected to the
achievement of the
pupils they teach.**



‘ Culturally responsive teaching make liquid again the spaces that tradition, parochialism, colonisation have solidified... culturally responsive teaching loosens straightjackets and this is very important in disjointed times.’

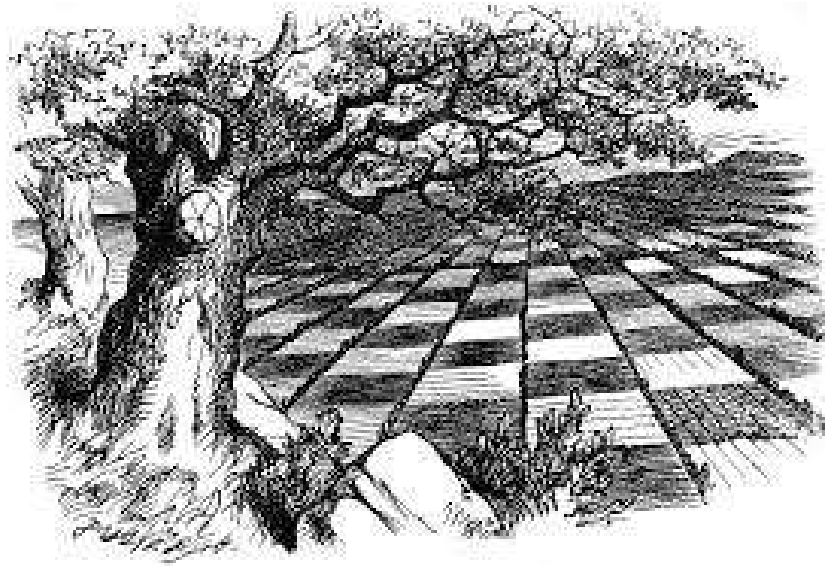
PluriLiteracies for deeper learning



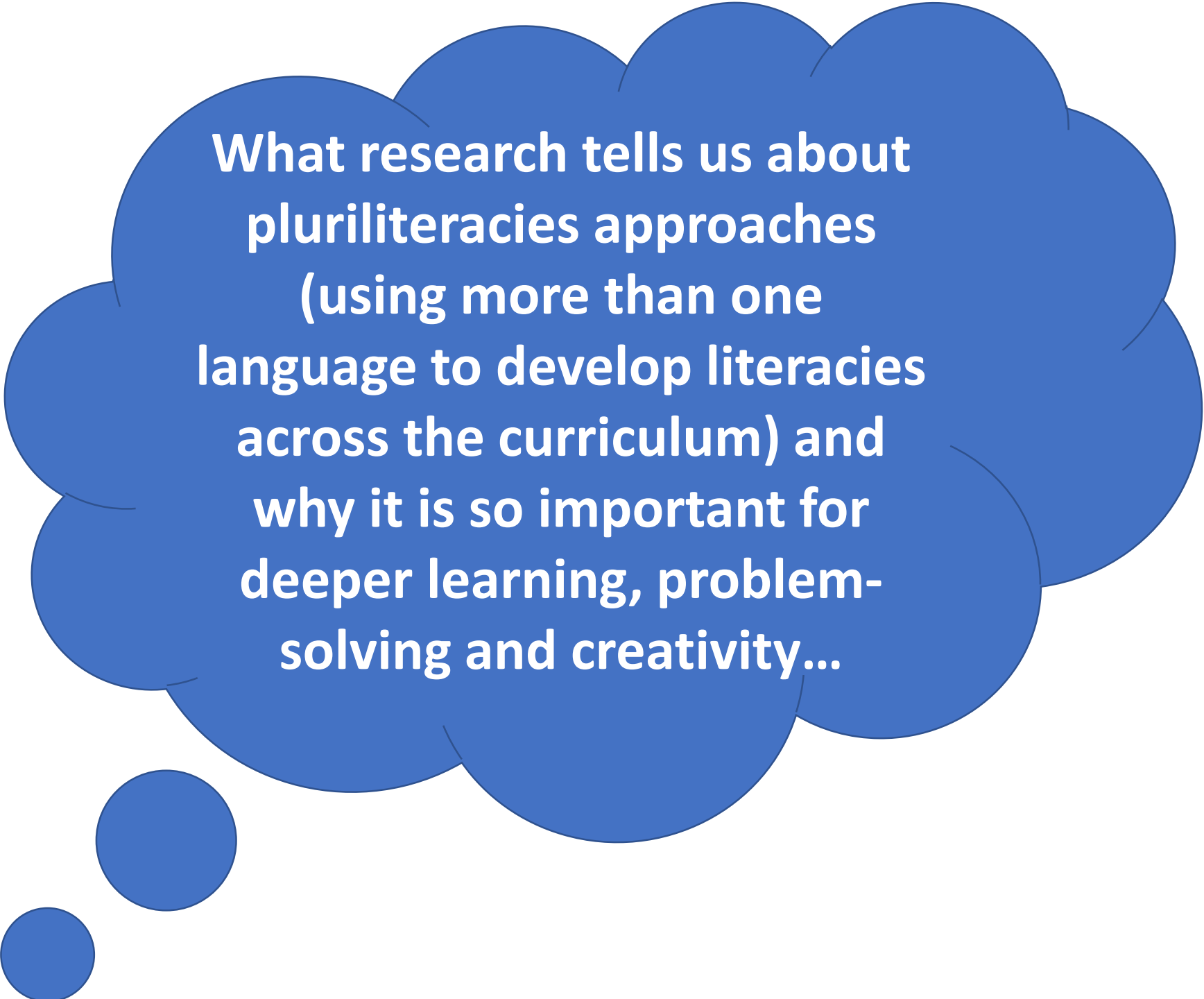
**Innovative and Inclusive
Pedagogies**

Do Coyle

Why it matters...



“If I had a world of my own, everything would be nonsense. Nothing would be what it is, because everything would be what it isn't. And contrary wise, what is, it wouldn't be. And what it wouldn't be, it would. You see?”



**What research tells us about
pluriliteracies approaches
(using more than one
language to develop literacies
across the curriculum) and
why it is so important for
deeper learning, problem-
solving and creativity...**

OUR WORLD

OUR CLASSROOMS



LEARNING PARTNERSHIPS

to nurture pluriliterate citizens



POLITICAL TURBULENCE

HOW SOCIAL MEDIA SHAPE
COLLECTIVE ACTION







FAKE

NEWS

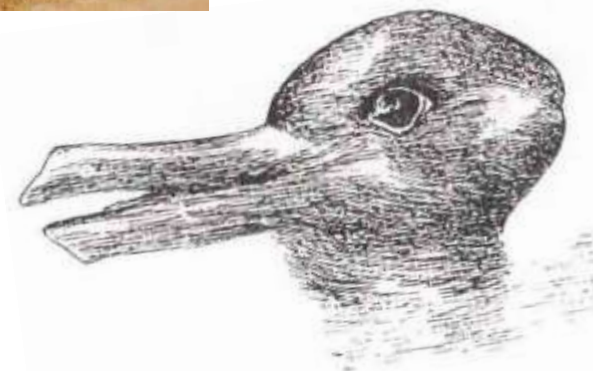
Scottish Schools



Anywhere Schools



Growth Mind Sets....



Seeing, knowing, being using different lenses

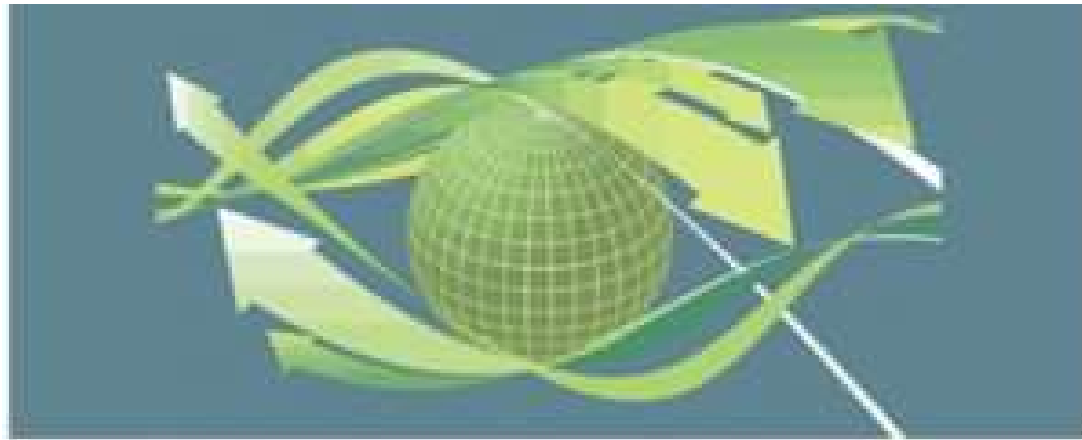








**258 million people
are living outside
their birth country**





Times change.... 2016

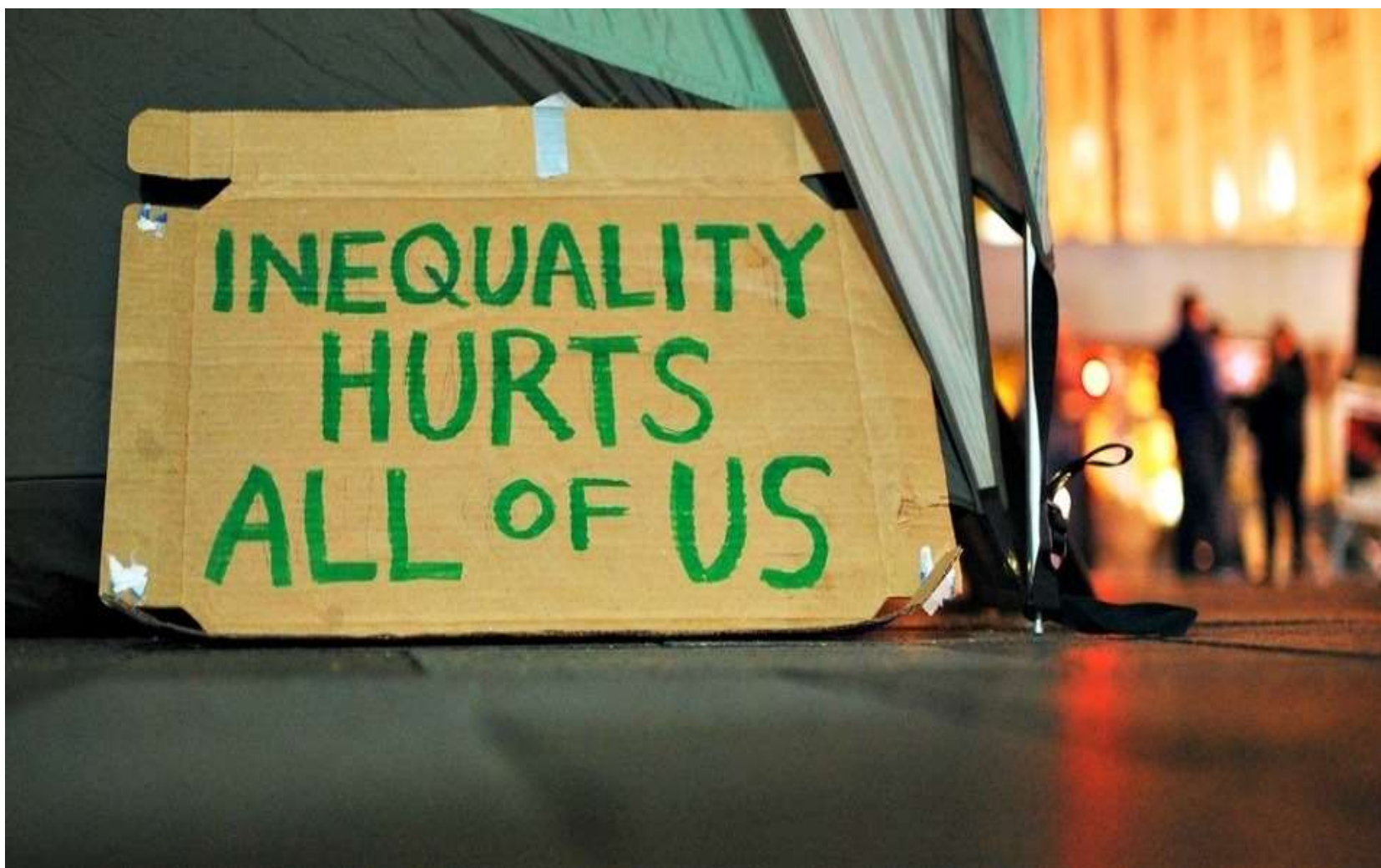
**“My judgement as
Home Secretary is that
remaining a member of
the European Union means
we’ll be more secure from
crime and terrorism.”**

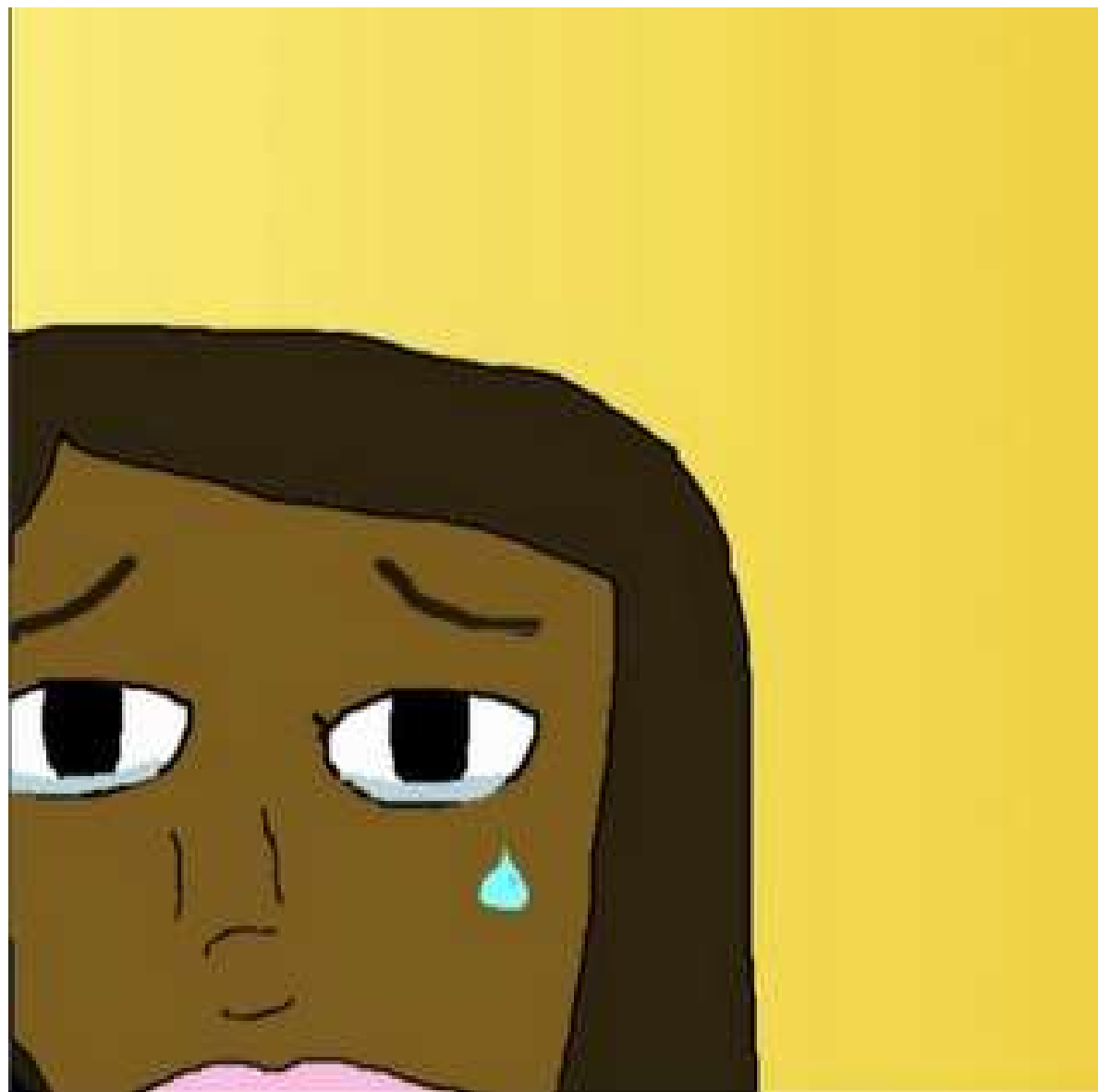
Theresa May, 25.04.16

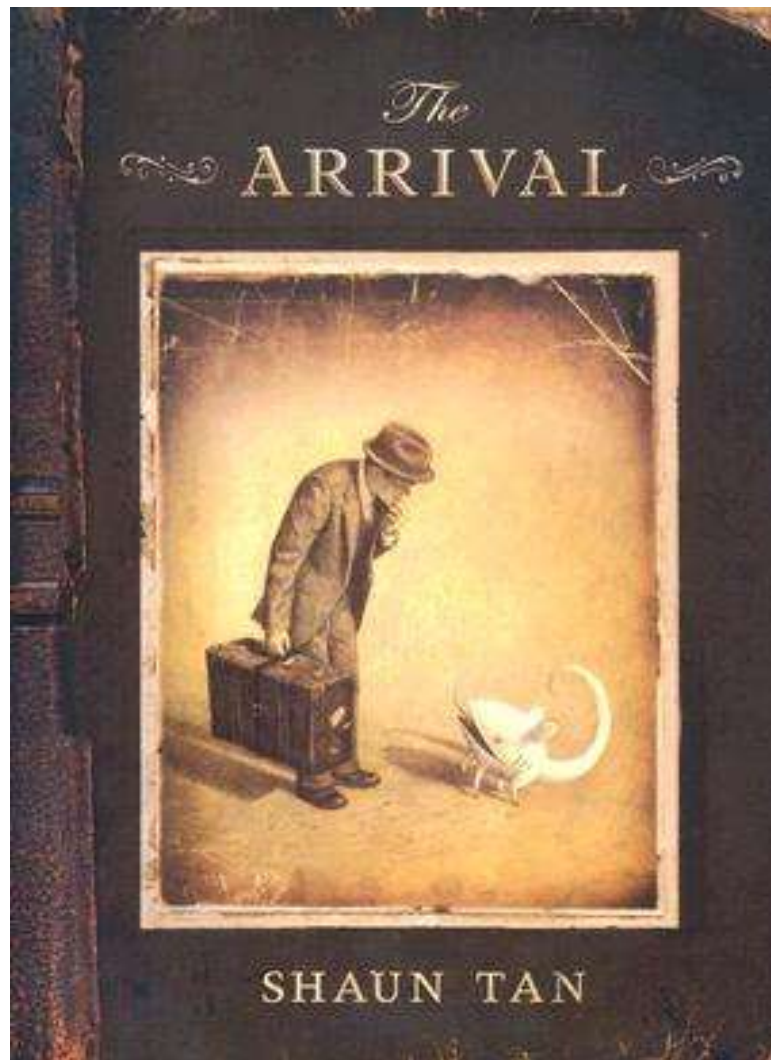


PHOTO: UK Home Office











foreign

migrant



~~Monolingual
English only~~

EAL/CLIL

outsider





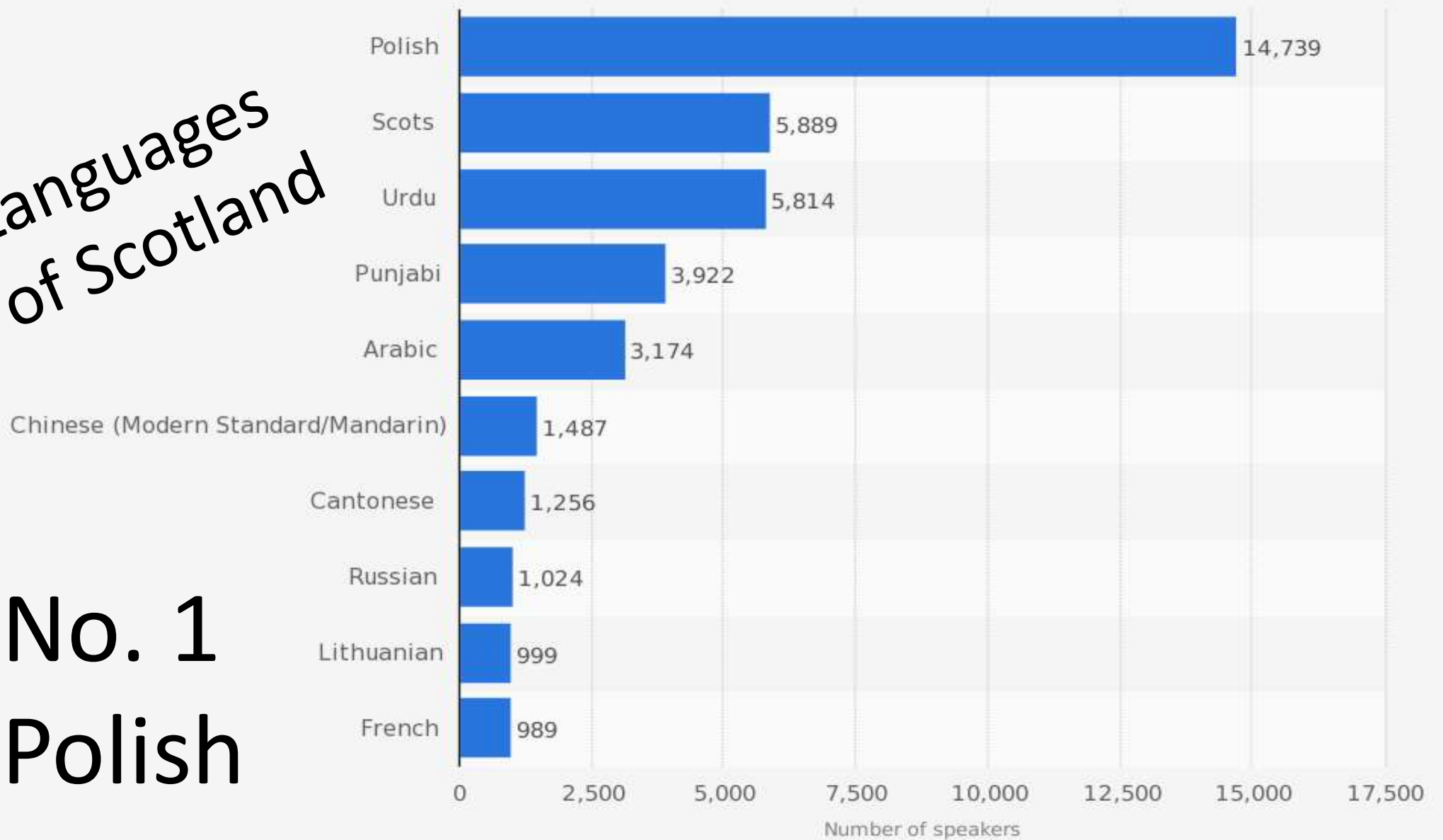




Non-English main home languages ranked by number of speakers in Scottish schools in 2016

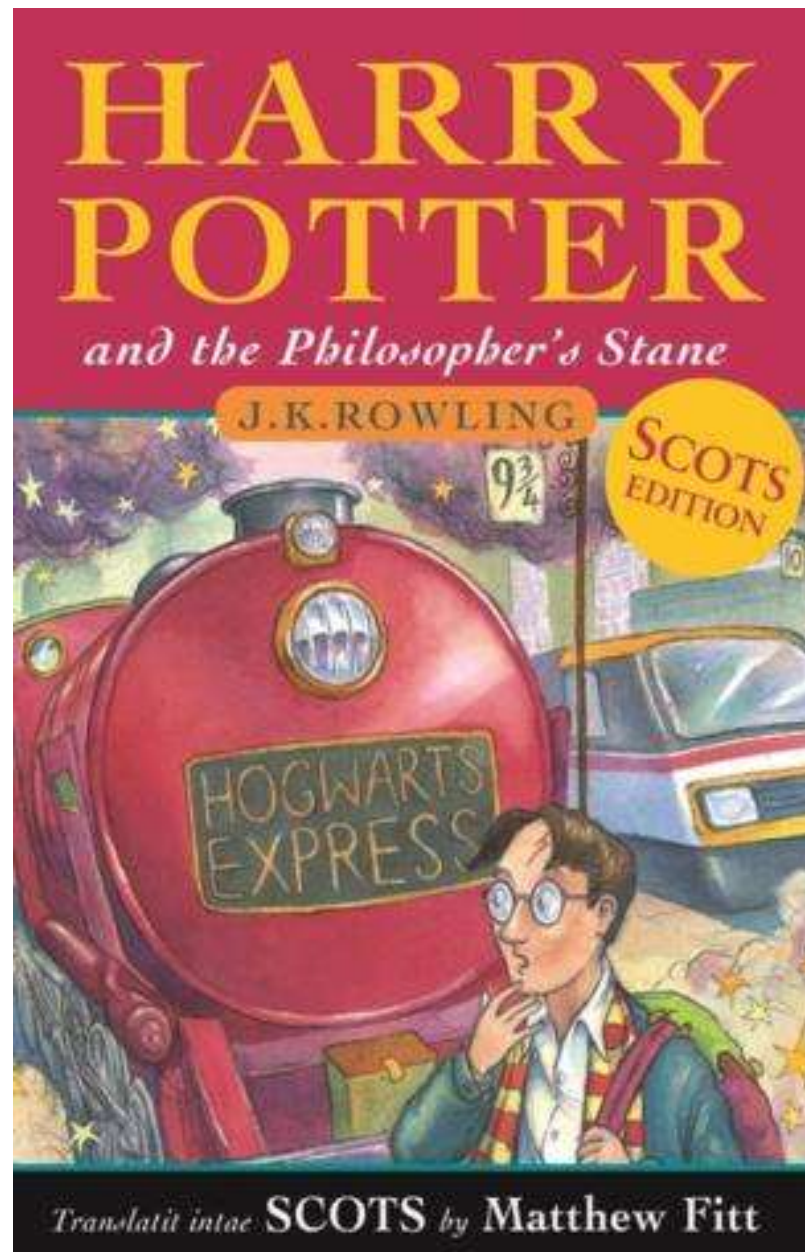
Languages
of Scotland

No. 1
Polish



**Language is not
about words...
words alone are
meaningless**

Languages of
Scotland



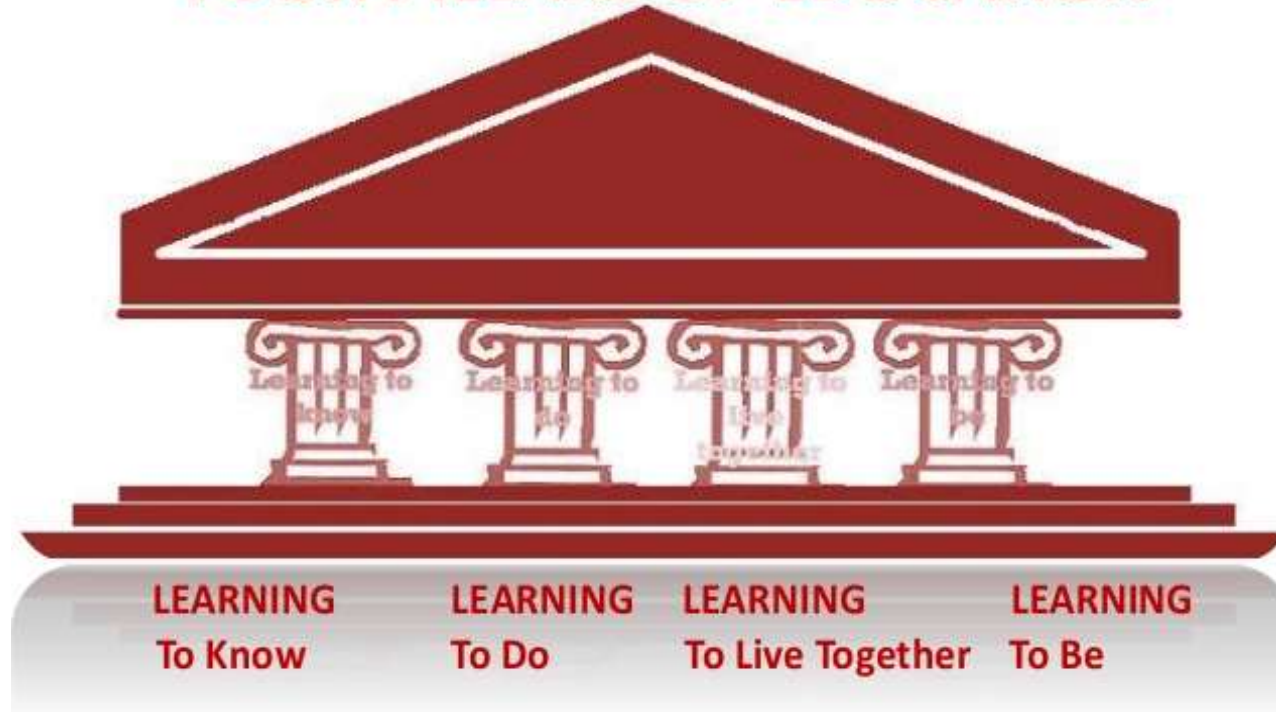
Scots

Language
is never
neutral



The International Commission on Education for the 21st
Century advocates

FOUR PILLARS OF EDUCATION





As teachers we need to be 'Glocal'

70%

world

**Schooled in 2nd or 3rd languages
is the NORM**



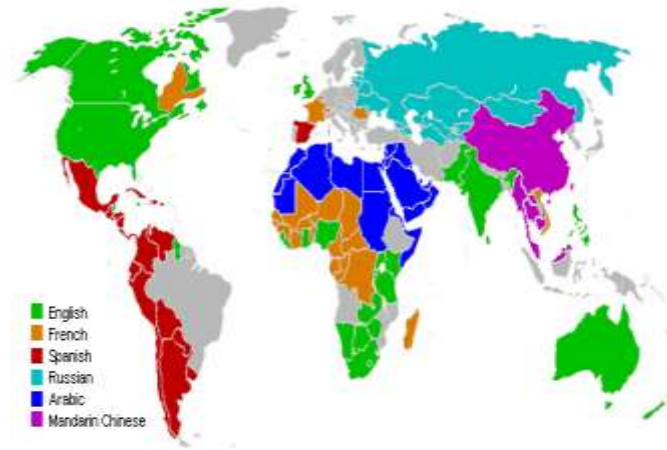
OECD 2016 proficiency in several information-processing skills – literacy, numeracy and problem-solving in technology-rich environments

 **Why skills matter**
FURTHER RESULTS FROM THE SURVEY OF ADULT SKILLS



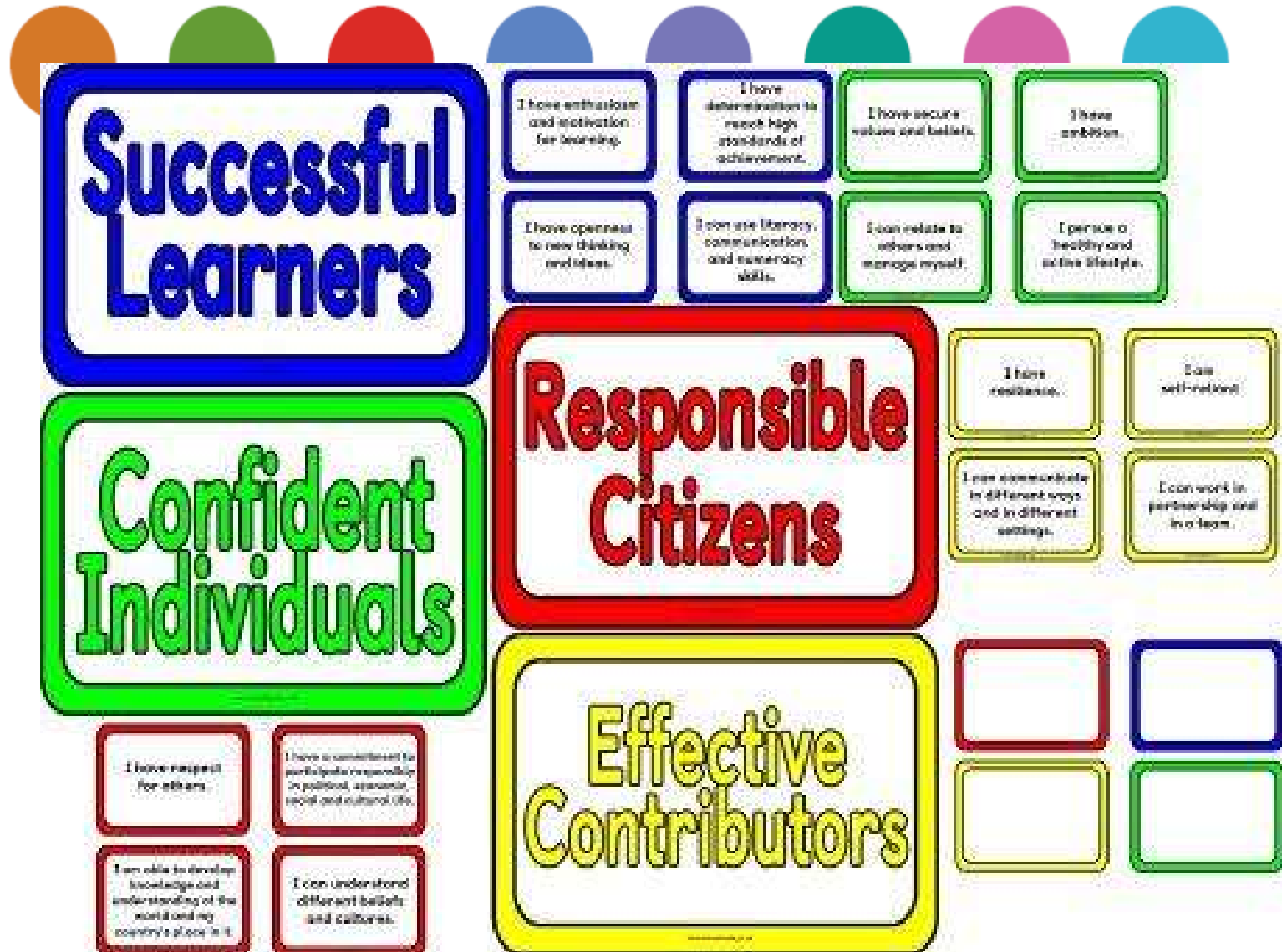
Shifts in Landscapes

- Societal changes
- Global concerns
- Policy and political imperatives
- Unprecedented digital advancement
- Fit-for-purpose education



The world we live in
and the classrooms we
learn in and the learners
and teachers who work
together are changing. A
good news story...

curriculum for excellence



Responsible citizens are
pluriliterate citizens

What does this mean
and why does it matter?

WHAT IS A PLURILITERATE LEARNER?

A pluriliterate learner is one who has understanding of how language makes thinking and learning work and has experience in meaning-making, problem-solving and being creative in more than language – a right for all learners

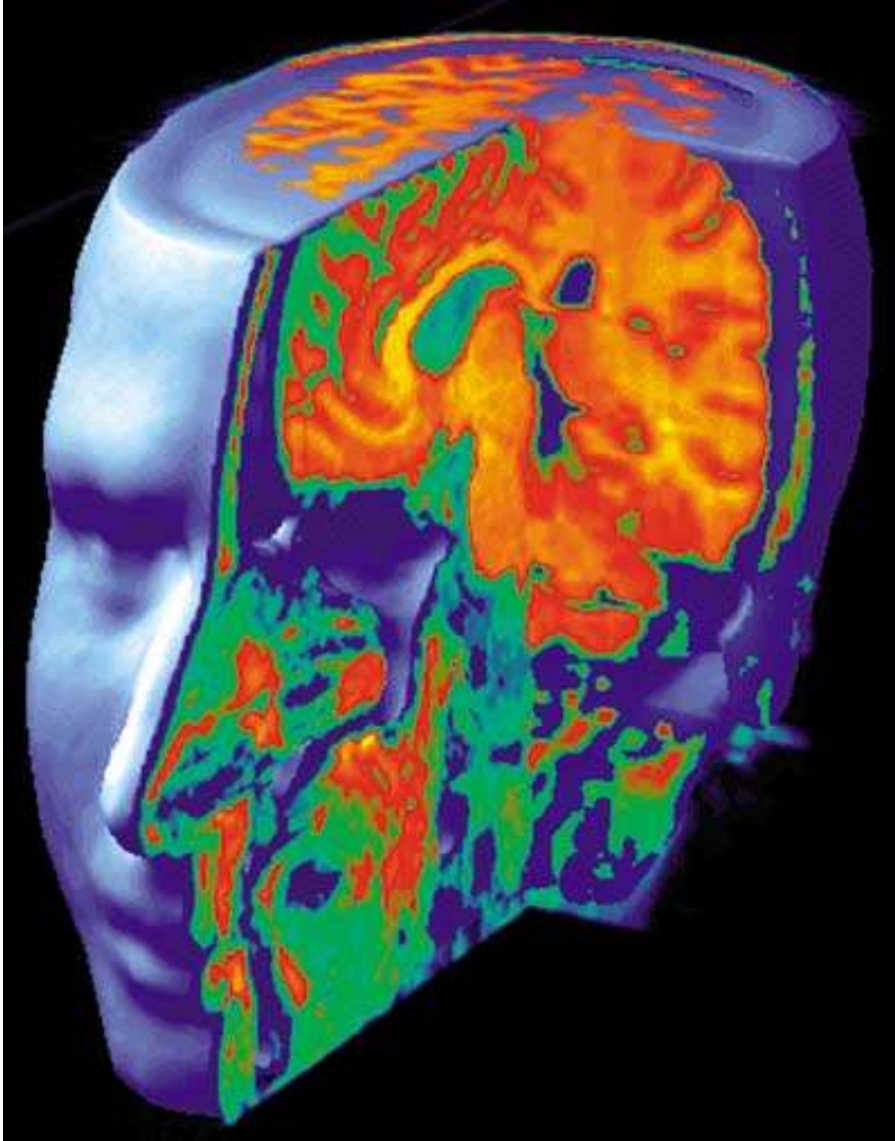
**Working Document Proposal for Council of Europe
Recommendations: A comprehensive approach to
the teaching & learning of languages, May 2018**



Recommendations: Language Aware Schools

- To improve language competences
- To broaden the scope of literacies teaching
- To ensure schools are aware of the linguistic diversity in their pupil population, offering them opportunities to create language-rich learning environments where multilingualism can flourish and the language of schooling can be adequately supported
- To shift language teaching and learning so that constructing new knowledge and understanding involves more than one language for all learners

Language as Learning Tool



#Cognitive tool

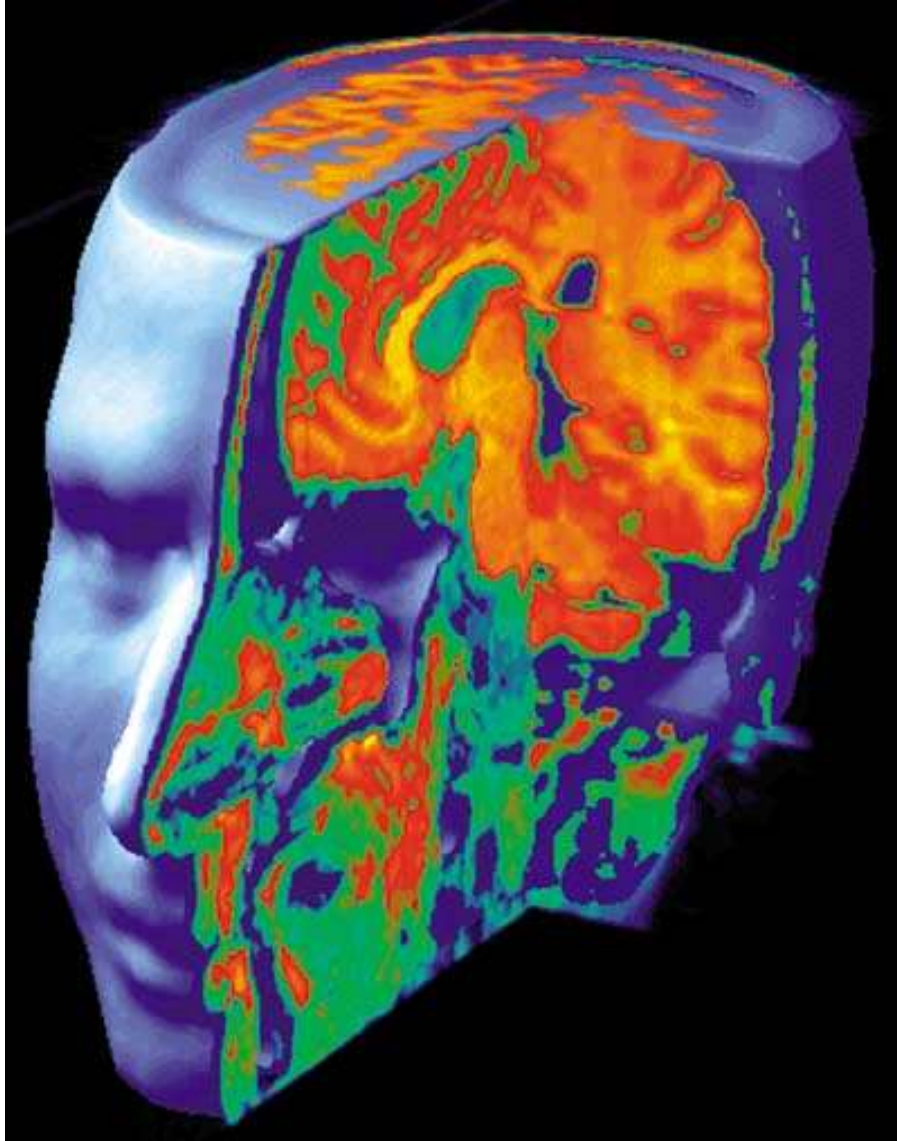
i.e. for constructing knowledge specific to themes, phenomena or subject disciplines

#Meta-cognitive and linguistic tool

i.e. learning how to learn and 'reflective' intervention' (**Bruner**)

Using language to learn

Language as Learning Tool



#As the medium and/or object of learning ~ language using is not the same as language learning (English, Gaelic and other languages)

#For social connectivity and intercultural understanding

Challenging the siloed curriculum
at all ages and stages



PluriLiteracies Approaches

Research tells us that cognitive processes are deepened and strengthened when triggered and scaffolded using more than one language and result in improved literacies in the language of schooling, encourage creativity and confidence and motivate young people to extend their understanding of the world

Pluriliteracies Approaches

1. Growing language aware classrooms not only of our pupils but of ourselves (linguistically and culturally)
2. Being actively language aware of the **academic** demands of topics/themes/phenomenon(cognitively, culturally and communicatively)
3. Being inclusive - different topics/disciplines have very different cultures, very different discourses which become increasingly nuanced i.e. progression.... My awareness, my planning!

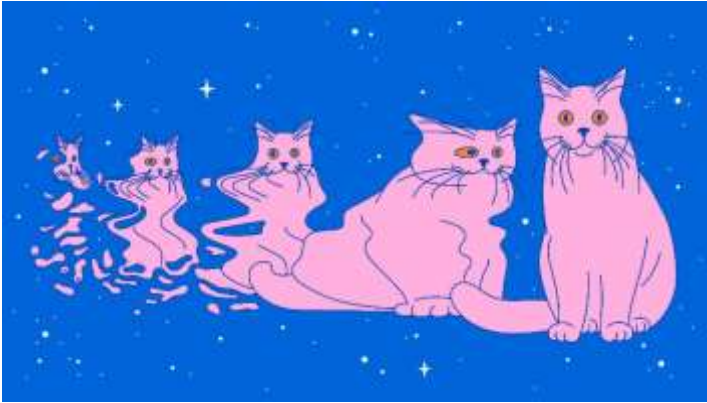


Academic
Language is
nobody's
mother tongue

Evidence of understanding through creative language use



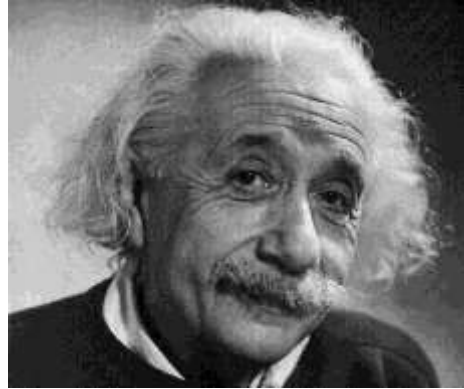
Quantum states...

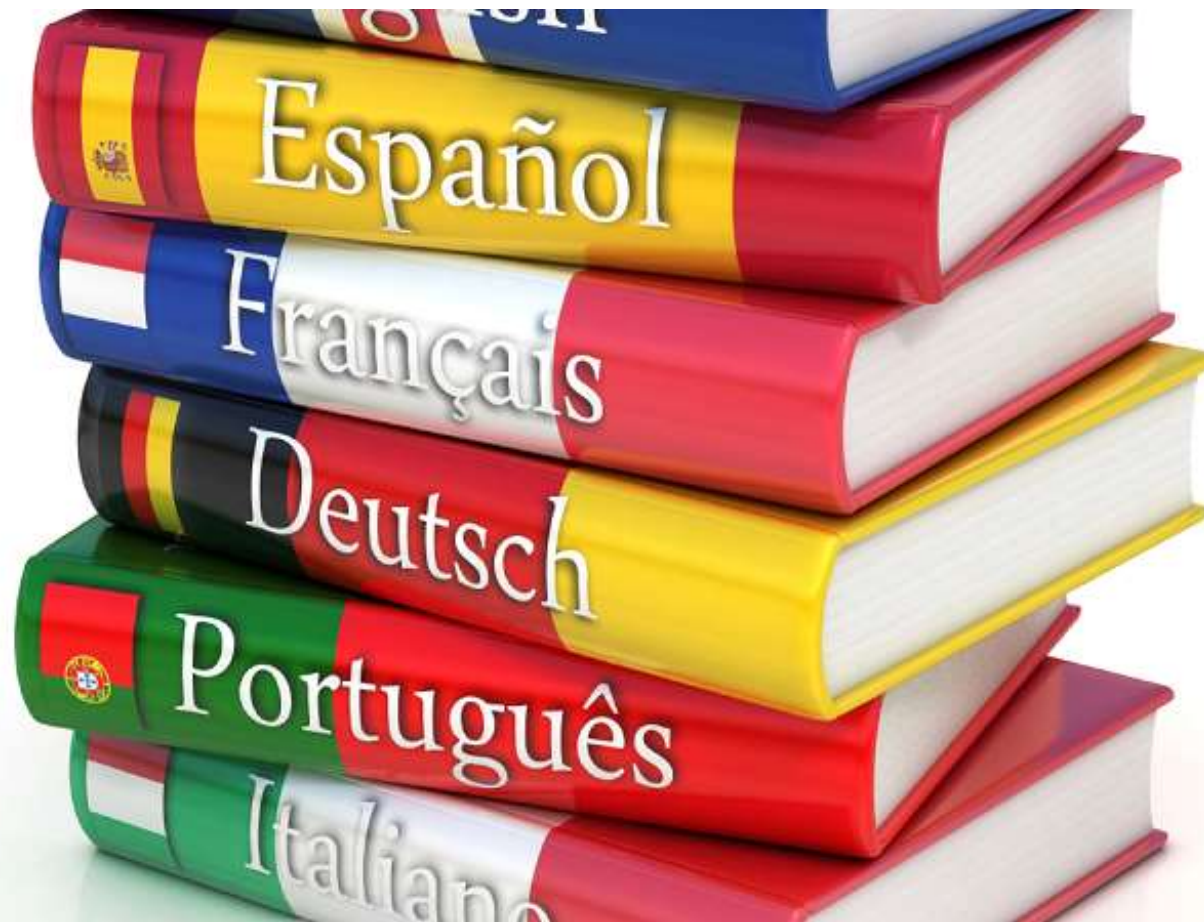


http://youtu.be/d1tn56vWU_g

<https://www.youtube.com/watch?v=IOYyCHGWJq4>

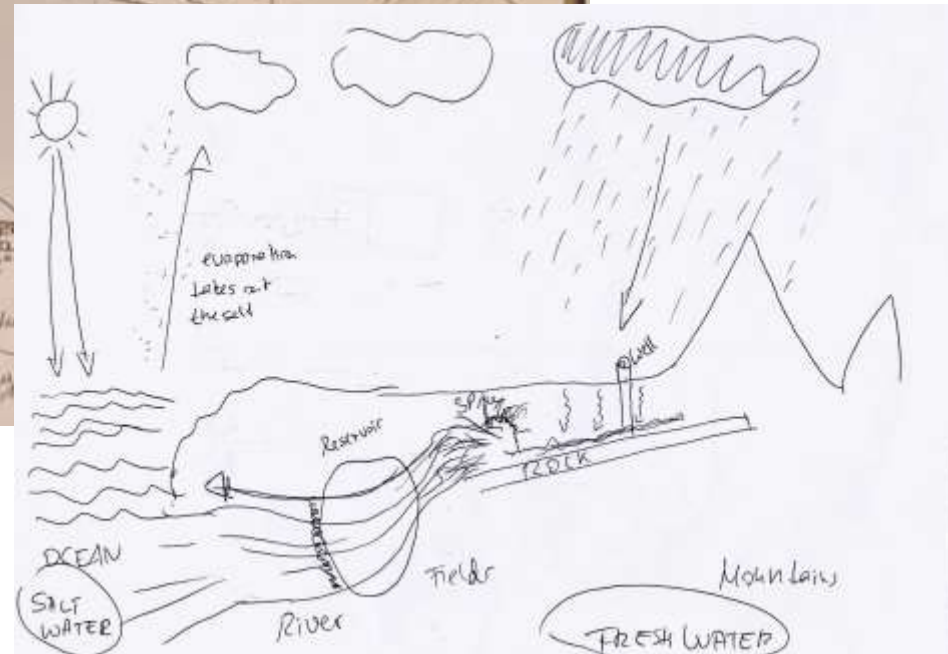
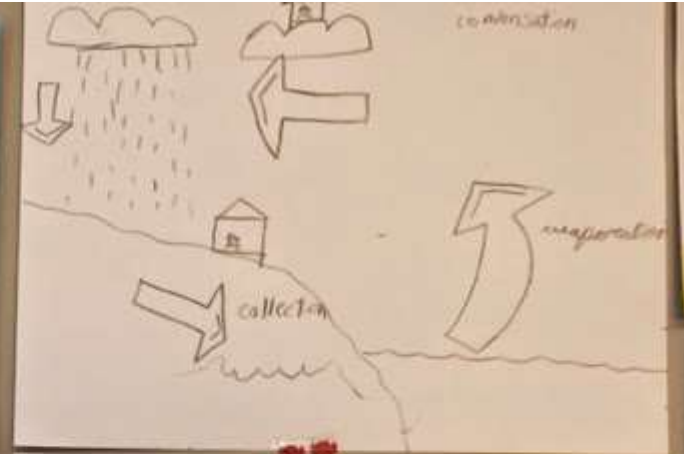
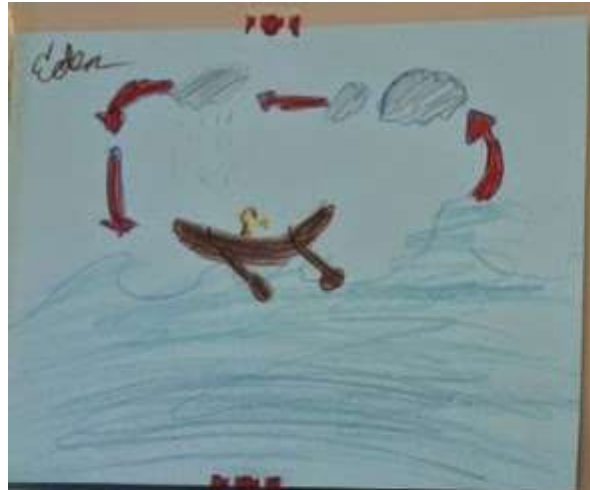
Behaving like.....







**To
Language
is a verb**





Le paysage gothique de Maria aged 11



From gothic literature and landscapes to people descriptions,
from 19th century clothing to evolution of fashion
and emancipation for women, Coco Chanel and so on.....

Il y a un arbre.

Il y a une maison.

On remarque un arbre
solitaire et mort et
derrière l'arbre. On
remarque aussi une
maison qui a l'air
d'être hantée.

Histoire au PASSE! → IMPARFAIT

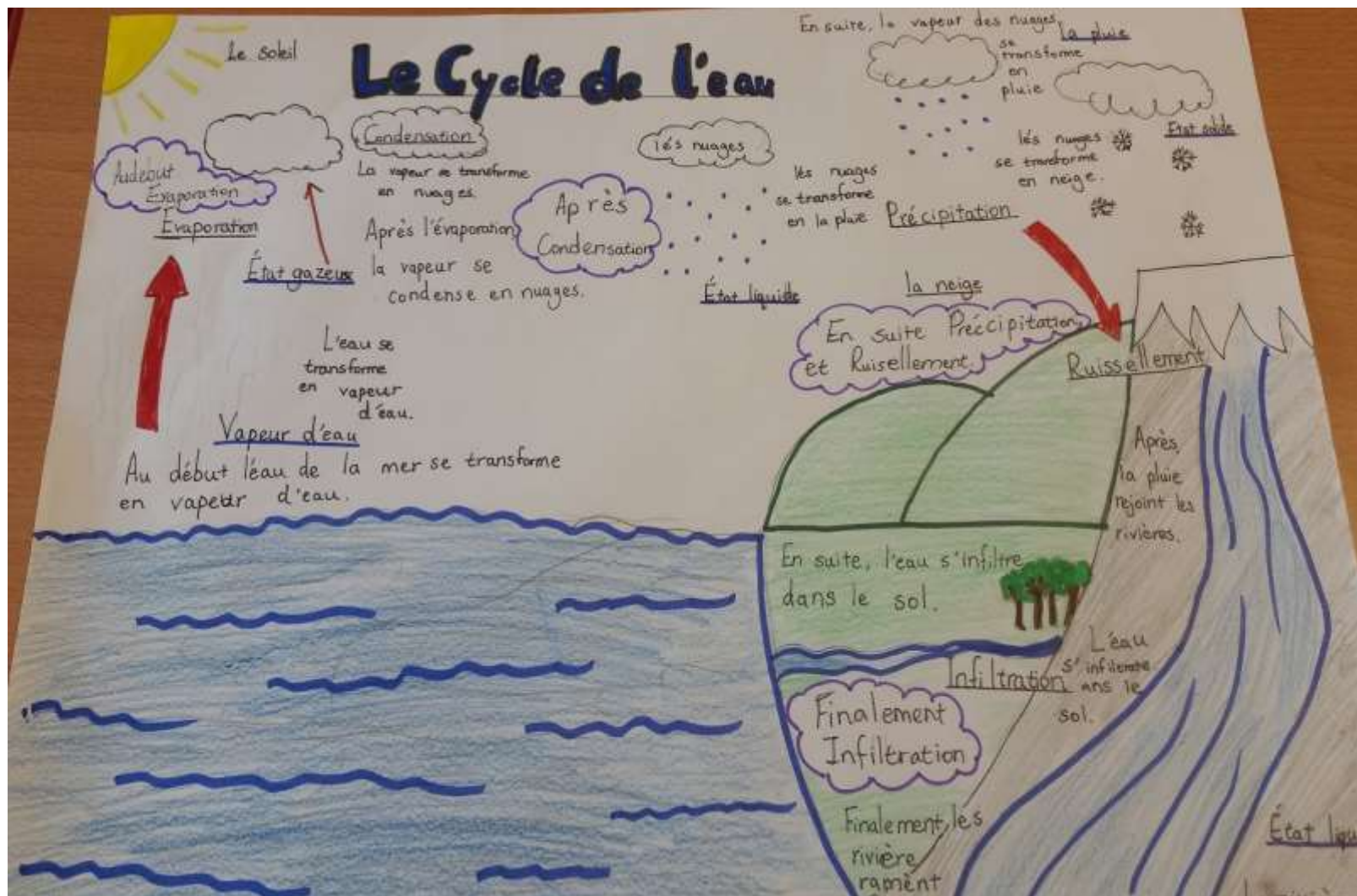
On remarquait un arbre solitaire et mort. Derrière l'arbre on remarquait une maison qui avait l'air d'être hantée et on sentait l'odeur du bois pourri.

Using language to raise awareness of literacy practices of expert authors and as a learning tool



MON PAYSAGE GOTHIQUE

Dans cette illustration on était dans un cimetière. Le cimetière était un de !"endroit typique de les paysages gothiques. Les couleurs qui étaient présent,dans cette illustration étaient le gris, le blanc mais surtout le noir. Dans le cimetière il y avait un silence si grave que tu pouvais entendre une broche tomber mais tout à coup il y avait le cri d'un hibou qui a brisé le silence. Le temps était nuageux et il y avait de la brume et les arbres étaient presque morts. On entendait une atmosphère sombre et mystérieuse.



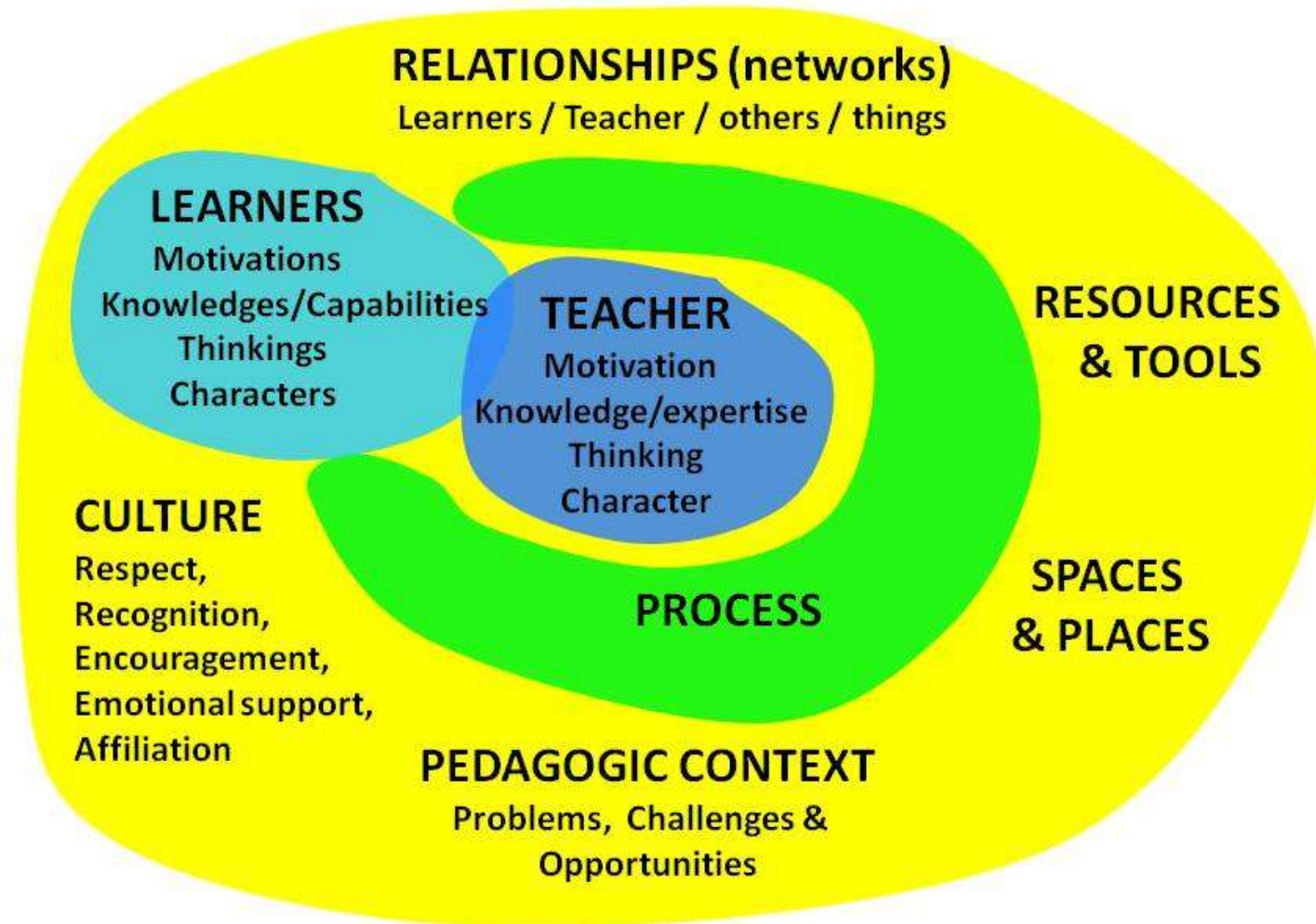
Planning for Learning

becomes



Designing the
learning environment –
emphasis is on LEARNING

Learning Ecologies



Doors, windows and opportunities

- Emphasis on literacies across the curriculum
- Building on 'multicultural' schools
- Aspirational 1 + 2 Policy in Scotland
- A shared alternative (new) language is a great leveller for all teachers and learners
- Strengthening cognitive-languages connectivity and making it transparent for all learners impacts on learning



MESSAGE ONE

Living our shared responsibility towards our pupils- whose linguistic stories cannot be the same as ours since each is unique - to ensure we enable them to understand what being a pluriliterate citizen means i.e. pedagogic inclusion

MESSAGE TWO

Strengthening the cognitive-language link and making it explicit/transparent can lead to deeper learning which impacts on the quality of learning for any learners – we need to be language aware

MESSAGE THREE

To promote the meaning of
'academic' literacies for all by
creating drawing, languaging,
talking spaces for all learners
through learning partnerships

MESSAGE FOUR

A pluriliteracies approach to learning is not about the teaching of another 'foreign' language, not about making our learners bilingual, not about having to be bilingual ourselves it is all about strengthening cognitive pathways and require a shift in mindset, thinking outside the box in terms of designing learning, learning partnerships – the impact is powerful and we can start small.....

Alice: This is impossible.
The Mad Hatter: Only if
you believe it is.



reflection & dialogue

- With those around you
- 5 minutes to reflect on and discuss both presentations
- Any questions? What were the key issues/points for you?
Connections to your practice/context?
- Please record 1 or 2 thoughts/comments/reflections/questions on post-its



Data literacy and innovative pedagogy

**I ♥
DATA**

Professor Judy Robertson, Moray House School of Education

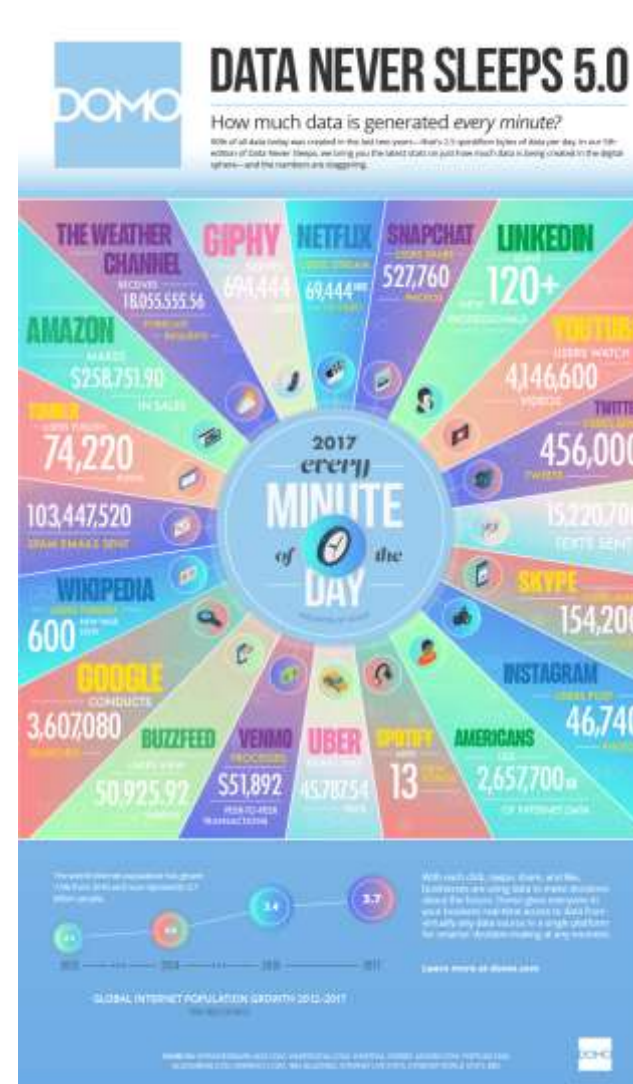


I want to convince you that

- Our world have changed – we are now wading in data, and this influences society
- This is a huge opportunity – data can help us make better decisions and direct our efforts
- Data also presents our society with new challenges
- We need *data education for all* to prepare our children to thrive in a data driven world



Ninety percent of the data in the world today has been created in the last two years alone. Our current output of data is roughly 2.5 quintillion bytes a day



...and is it reshaping our society *



*whether you want it to or not

Machine learning puts data to work

...and can work amazingly well



Science News

from research organizations

AI approach outperformed human experts in identifying cervical precancer

Algorithm could revolutionize cervical cancer screening, especially in low-resource settings

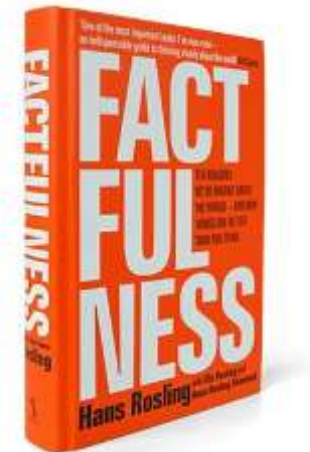
Date: January 10, 2019

Source: NCI/National Cancer Institute

Summary: A research team has developed a computer algorithm that can analyze digital images of a woman's cervix and accurately identify precancerous changes that require medical attention. This artificial intelligence (AI) approach, called automated visual evaluation, has the potential to revolutionize cervical cancer screening, particularly in low-resource settings.

We humans should put data to work

- We all need to develop a fact-based world view
- Freely accessible world data sets help us to understand the world as it is (not as it was in 1965)



Politicians disregard facts

Analysis

President Trump made 8,158 false or misleading claims in his first two years

Midway through his term, the president has accumulated many, many Pinocchios.



Glenn Kessler, Salvador Rizzo, Meg Kelly · 4 days ago

...so we need to know how to hunt facts down

Source: Washington Post https://www.washingtonpost.com/politics/2019/01/21/president-trump-made-false-or-misleading-claims-his-first-two-years/?utm_term=.9f2ee77ba23e

Why do we need data literacy?

- “data literacy allows for the development of citizens who can access and analyze data from government or from their own personal sensors in order to answer their own questions, giving them a powerful voice in a democratic society” (Gould, 2017)
- Statistical literacy leads to better decision making
- “Statistics should be like cooking” (Xiao-Li Meng, in Wild, 2017)



A data literate person:

“understands, explains, and documents the utility and limitations of data by becoming a critical consumer of data, **controlling his/her personal data trail**, **finding meaning in data**, and taking action based on data. The data-literate individual can identify, **collect**, evaluate, **analyze**, interpret, present, and protect data.” (ODI 2015).



Note

- Data literacy and digital literacy are not the same thing





Data Scientist: The Sexiest Job of the 21st Century

by Thomas H. Davenport and D.J. Patil

revised 2nd, 2012

MODERN DATA SCIENTIST

Data Scientist, the sexiest job of the 21st century, requires a mixture of multidisciplinary skills ranging from an intersection of mathematics, statistics, computer science, communication and business. Finding a data scientist is hard. Finding people who understand who a data scientist is, is equally hard. So here is a little cheat sheet on who the modern data scientist really is.

MATH & STATISTICS

- Machine learning
- Statistical modeling
- Experimental design
- Bayesian inference
- Supervised learning: decision trees, random forests, logistic regression
- Unsupervised learning: clustering, dimensionality reduction
- Optimization: gradient descent and variants

PROGRAMMING & DATABASE

- Computer science foundations
- Scripting language e.g. Python
- Statistical computing packages, e.g. R
- Databases: SQL and NoSQL
- Relational Algebra
- Parallel databases and parallel query processing
- MapReduce concepts
- Hadoop and Hadoop
- Custom collectors
- Experience with real-time APIs



DOMAIN KNOWLEDGE & SOFT SKILLS

- Familiarity about the business
- General about data
- Influence without authority
- Fluency in natural language
- Problem solver
- Strategic, creative, intuitive, innovative and collaborative

COMMUNICATION & VISUALIZATION

- Ability to engage with senior management
- Story telling skills
- Translate data-driven insights into decisions and actions
- Visual art design
- Fluency in the appropriate format
- Knowledge of any of visualization tools e.g. Tableau, D3.js, ggplot2

Marketing Analytics is a group of practitioners in the area of a business marketing. Our fields of expertise include marketing strategy and implementation, customer tracking and on-site analytics, predictive analytics and econometrics, data mining and big data systems, marketing channel insights in Real Estate, SEO, Social, CRM and beyond.

Marketing Analytics
FOR YOUR BUSINESS



Data Education in Schools

All children in the City Region will have the opportunity to excel in data education, regardless of their gender, location or financial circumstances.

121k

Learners across the
region over 8 years



Come to the workshop to learn more

- Or email kate.Farrell@ed.ac.uk for information about our current projects, subject heading “Data Education in Schools”



A high-angle, top-down photograph of a group of people, mostly women, gathered around a table. They are engaged in a collaborative activity, likely a workshop or brainstorming session. The table is covered with various papers, including a large sheet with the letters 'CRE' and 'DE' in large, bold, black letters. There are also several colorful sticky notes (yellow, blue, green) scattered across the table. One sticky note has the text '75%' on it. Another sticky note has the text 'Think - live - customer' on it. The people are looking down at the papers and sticky notes, and some are pointing at them. The background is slightly blurred, showing more people and papers, suggesting a larger group or a multi-table setup.

Laura Colucci-Gray

**Innovative Pedagogies and Sustainability:
From the Body Within – Reviewing
Learning for Sustainability through Affect,
Cognition and Action**

From the body within

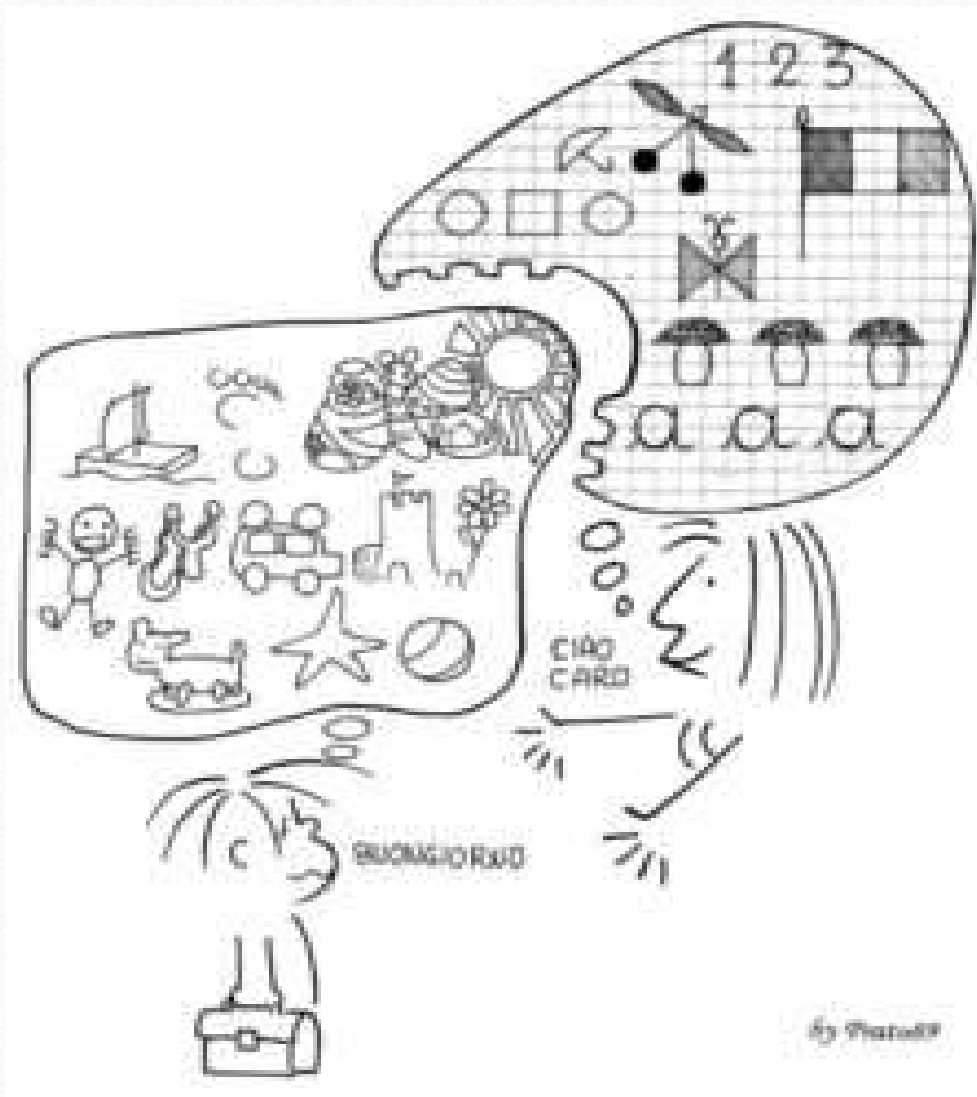
Reviewing learning for sustainability through affect,
cognition and action

Dr. Laura Colucci-Gray, Moray House School of Education

How do we learn?

- Learning appears as a seamless activity
- ... of trials and errors....
- As we develop '**sense**' of safety, risk, stability...



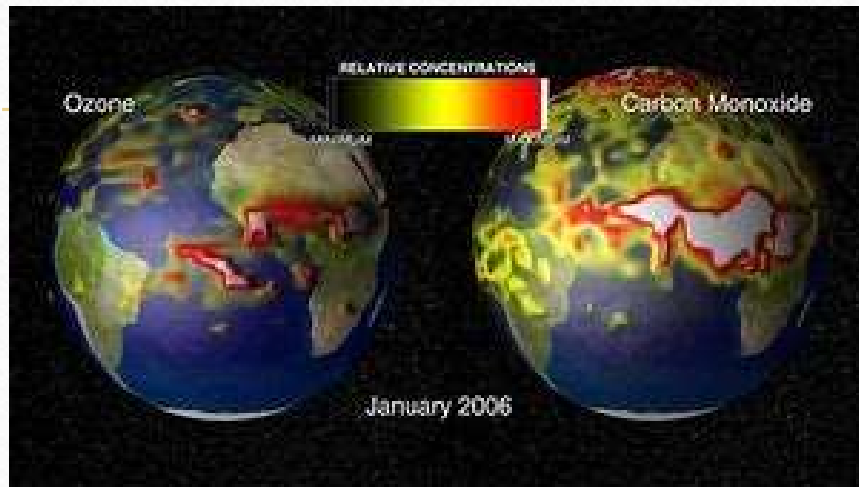


And then school happens....

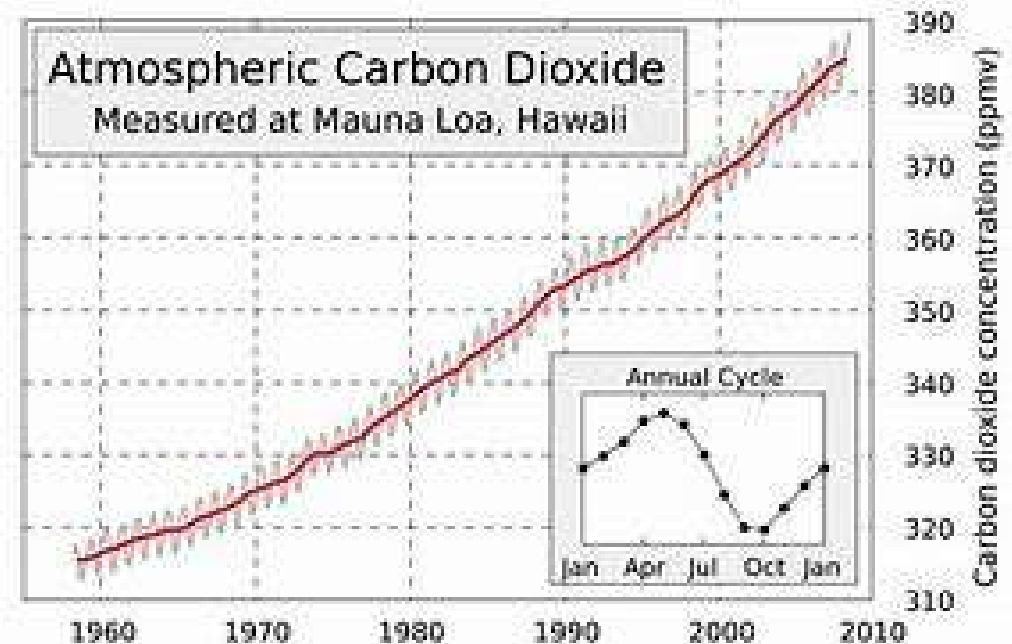
Knowledge is codified into 'constructs' Which are acquired/transferred and validated as 'true' representations' of the world

The learner's knowledge is taken to 'progress' from lower to higher levels of abstraction

And abstract knowledge increases



We have never known so much about the Earth as we do know... quantities, trends, tables and charts collected and assembled **in real time...**



... and so does the rate
of change in society

The rate of social and
ecological change *recorded and
measured through data* over the
past 100 years has been so
dramatic and perceptible to be
comparable to the forces of
evolutionary change



Unknown unknowns

- E.g. Children and digital technologies

Digitally fluent at a young age....

...supporting and increasing attainment...

(Palaiologou, 2016)



Limited use of the body and effects on physiological functions

Reduced 'attention' and 'concentration'

Impact on social skills

Impact on manual skills

????????????

(Smahel et al, 2015)

Change happens as we speak

- ... while we carry out everyday actions,
- ... while we monitor impacts....
- ... While we develop new products....
- ... while we make decisions without evidence being available...

We are right in the middle of it!



(1975) Descubrir los propios límites no permite
una relación con lo demás

FRANCO

I wish you to consider:

- ‘Living in the middle’ poses questions about the way we understand learning and teaching - as practitioners, researchers, citizens and ... inhabitants of the Earth
- It troubles **linear conceptions of ‘knowledge’ informing ‘action’**
- ... and calls for a more **acute ‘sensing’ and ‘knowing’** as a form of relational awareness rooted in one’s own body...

...embodied knowing

“We are not outside observers of the world. Neither we are simply located at particular places *in* the world; rather we are *part of* the world...
(Barad, 2007)




Recovering the ability to *dwell* in the world, making sense of life **through one's full moto-sensory capacities...**

Ready to
try?

reflection & dialogue


- With those around you
- 5 minutes to reflect on and discuss both presentations
- Any questions? What were the key issues/points for you?
Connections to your practice/context?
- Please record 1 or 2 thoughts/comments/reflections/questions on post-its

A high-angle, top-down photograph of a group of people, mostly women, gathered around a table. They are engaged in a collaborative activity, likely a workshop or meeting. The table is covered with various items: papers, sticky notes in yellow, blue, and pink, and diagrams. One prominent diagram shows a flowchart with a large '4' in the center. Another paper has the text 'Think like a customer'. A sticky note in the top left corner says '75%'. The people are looking down at the table, and their hands are visible as they interact with the materials. The background is slightly blurred, focusing attention on the activity on the table.

**11.10-11.30: Tea &
Coffee (room G43)**

11.30-12.30: Session 1

Please be in your session room for 11.30

A high-angle, top-down photograph of a group of people, mostly women, gathered around a large table. They are engaged in a collaborative activity, likely a workshop or brainstorming session. The table is covered with various papers, including a large sheet with the letters 'CRE' in bold, and numerous colorful sticky notes (yellow, blue, green, pink) that are being placed and moved. One person is holding a yellow sticky note with the text 'I AM ALSO'. Another person is pointing at a paper with a large, stylized 'A' drawn on it. The background is slightly blurred, focusing attention on the participants and their work. The overall atmosphere is one of active participation and teamwork.

**12.30-1.30: Lunch
(room G43)**

1.30-2.45: Session 2

Please be in your session room for 1.30

Mapping the
Connections

Learnings
from Practice

