

# Educational Disadvantage & Place: Big & novel data to meet social challenges

Prof Catherine M. Lido & Dr Phil Mason  
Urban Big Data Centre/ School of Education



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Urban  
Big  
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An ESRC Data  
Investment

UBDC is a research centre that is jointly funded by the ESRC and the University of Glasgow.

We promote the use of big data and innovative research methods to improve social, economic and environmental well-being in cities.

We deliver analyses which have demonstrable impacts on public policy, society and industry. We do this by publishing world-leading research in the social sciences and other disciplines, but also by working closely with partners from government, industry and the third sector.

We work to enhance the quality of urban big data and methods for urban analytics to support the work of others. But we also provide critical analysis of the value of these for understanding urban conditions.

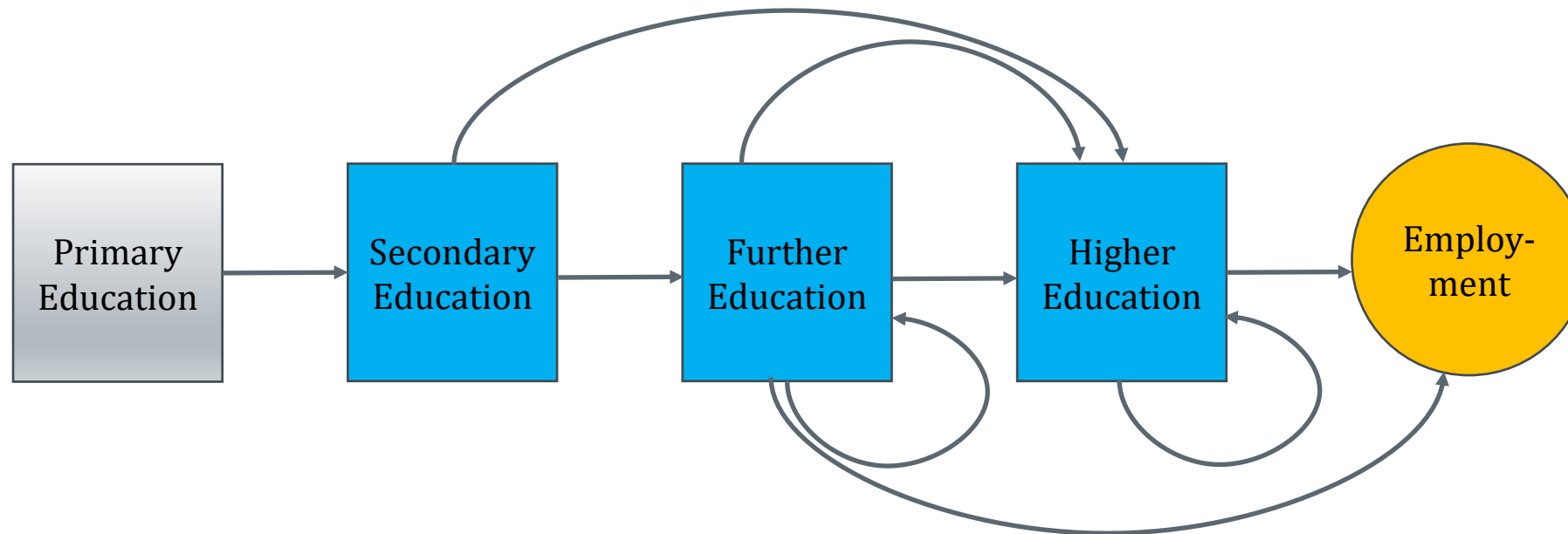
We offer a centre-of-excellence for teaching and capacity building in urban big data and urban analytics. You can study with us as a Masters or PhD student.

UBDC was established in 2014. In its first phase - up to January 2019 - it was funded by the ESRC as part of the UK's national data infrastructure, focussed on developing big data resources and urban analytics methods for a wide range of potential applications and users.

[www.ubdc.ac.uk](http://www.ubdc.ac.uk)

[@urbanbigdata](https://twitter.com/urbanbigdata)

- 1) **Secondary Education:** Place-based Inequalities in Secondary School Attainment and Progression
- 2) **Further Education:** Fulfilling Its Purpose?
- 3) **Higher Education:** Learner Success in Access, Attainment, and Entry into Skilled Employment
- 4) **Inclusive Learning Cities:** Learning-Engaged Citizens = Happier, Healthier, Economically Engaged  
(Marmot Review 2010; Osborne 2014)



**Research Team**  
Prof Catherine Lido  
Prof Mike Osborne  
Prof Keith Kintrea  
Dr Muir Houston  
Dr Phil Mason  
Mr Barry Black  
Ms Brittney Nathaniel



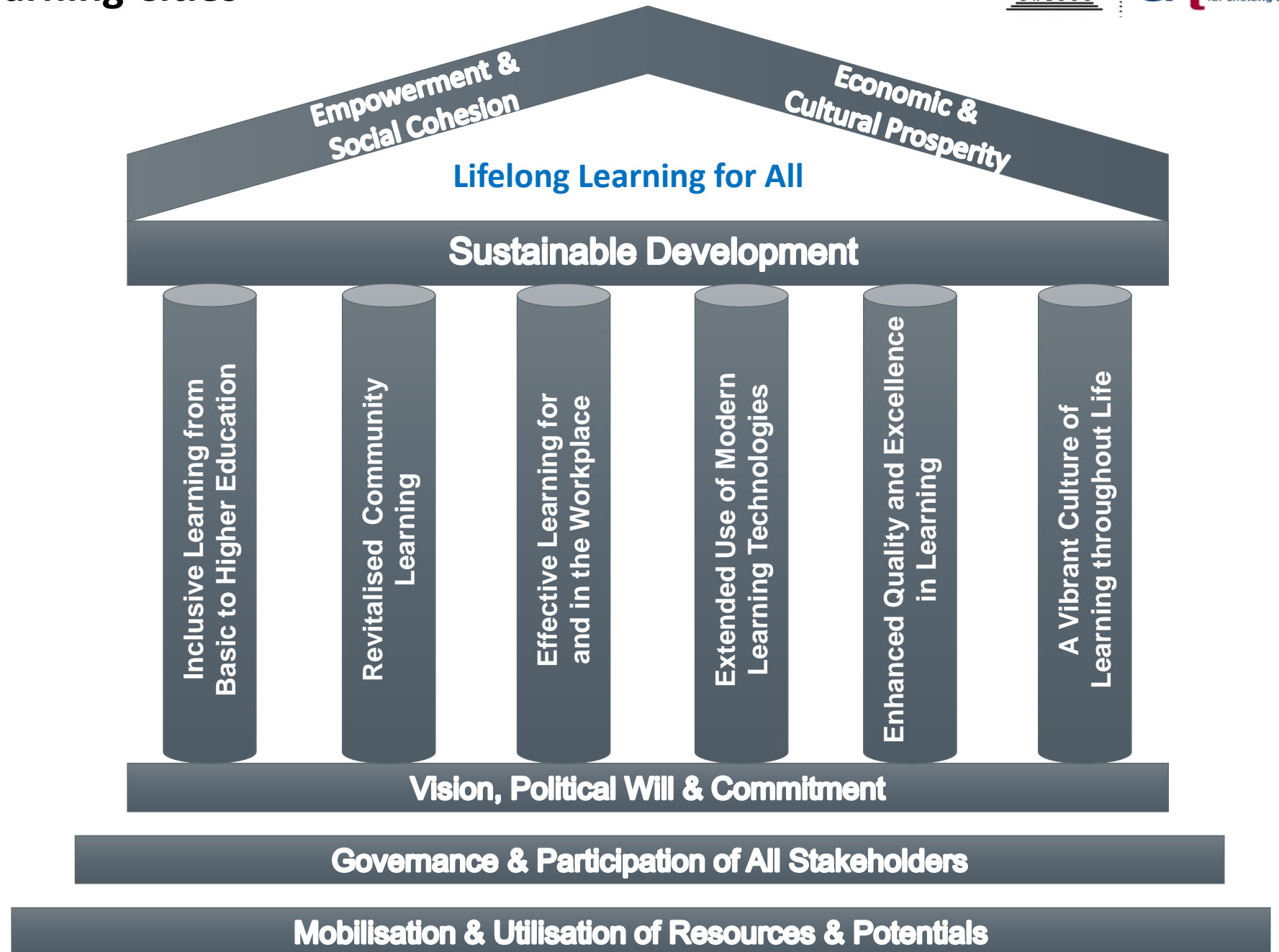
# UNESCO Features of Learning Cities



Wider benefits of building a learning city

Major building blocks of a learning city

Fundamental conditions for building a learning city



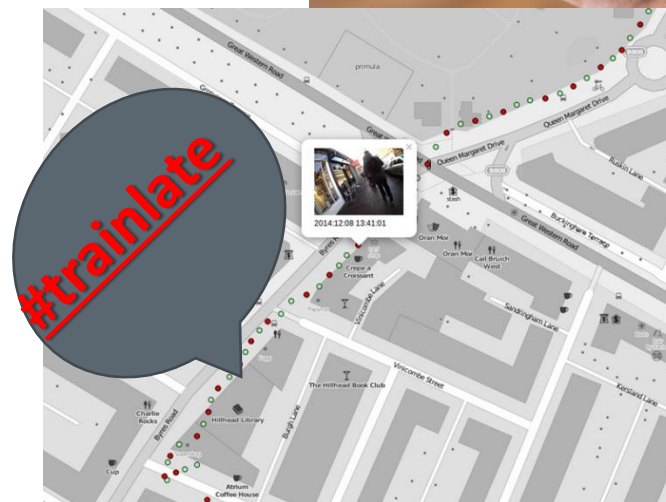
# Integrated Multimedia City Data (iMCD) Project @UBDC

1. Survey- 1500 Households *With Travel Diary*
2. GPS
3. Lifelogging Cameras
4. Social Media Capture



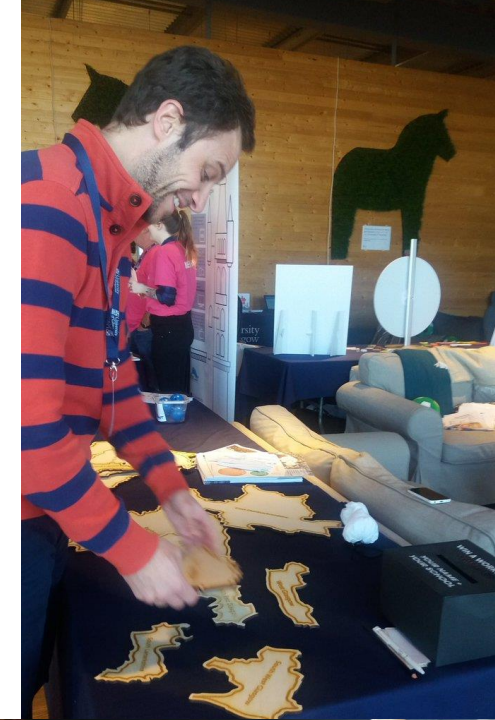
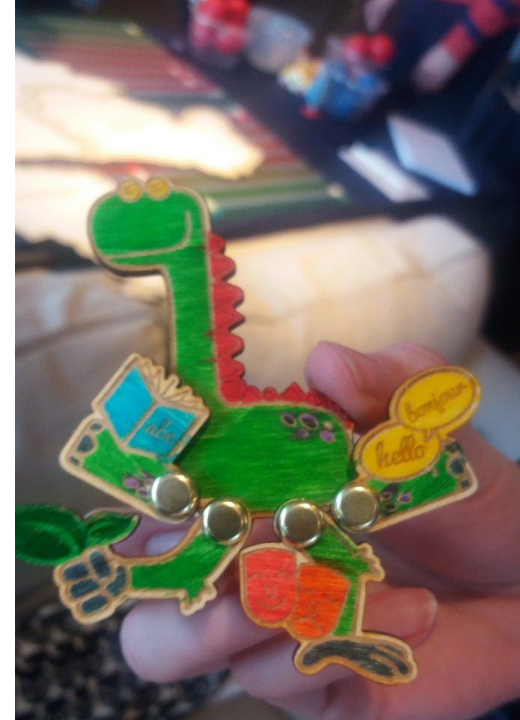
## Attitudes, Literacies & Behaviours

- ✓ Education/ skills
- ✓ Sustainability
- ✓ Transport
- ✓ Cultural/ civic
- ✓ ICT/ technology



- *Stratified Random Postcode Sampling (Ipsos MORI)*
- n=2,095; 16-102 years (mean = 49.42, SD = 19); 45.7% Female, 54.3% Male





# Rapid, informed evidence-based responses to hot issues: COVID-19 and the Scottish school exam controversy

- March 2020 – Scottish secondary school exams cancelled.
- SQA- **Alternative Certification Model (ACM)** based on teacher estimates (TEs) of *pupil* results, moderated by **historical attainment of schools**
- August 2020 – ACM downgrading worse for pupils from higher deprivation areas
- (e.g., Highers: 15% vs. 7% fewer A-C grades than TEs for most- vs. least-deprived quintiles)
- Controversy led to withdrawal of ACM-based results one week later

Black (2020 UBDC blog):

- Using FOI-requested school-level data revealed
- Schools with  $\geq 40\%$  of pupils on Free School Meals (FSM)
- 1/5 of pupils TEs Higher passes downgraded to fails
- **Twice as many** as schools w/  $<10\%$  of pupils on FSM
- **ACM reflected systematic inequalities in attainment, not efforts & attainment of pupils**

