A school data office as digital intermediary

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27 January 2022

Unpacking the 'In-Between': Workshop on Intermediaries in the Digital Transformation of Schooling

"Welcome to the data office"

- A micro perspective on digital data intermediaries within and beyond a single school

- Data office played a crucial role in data infrastructuring (Hartong and Piattoeva 2019)

- In which new kinds of education-data-systems expertise and professionalism are forged and performed

- Through which organizational and governing power flows and is reconfigured, challenging and reinforcing existing power structures

The study

Sociomaterial ethnographic study of an English suburban secondary school

Following social life of data over a school year

An entry point into "an assemblage of material, semiotic and social flows and practices" (Sellar 2015)

- Technological and data infrastructures
- Evolving inter/national accountability systems
- Policies and policy making
- Media and technology discourses

The school data office

A hub for managing data flows within and beyond the school

Focused on improving student and school performance metrics

Three members of staff

- Assistant Head – Performance Improvement Lead; Maths & Science teacher
- Data manager; Maths teacher
- Data administrator

Managing data flows

Devising, (re)engineering and maintaining systems for monitoring and intervening in pupil performance data

- Routine rhythms of 'data drops' throughout the school year, generating performance data for every pupil in every subject

- Generating multiple reports and further processes; triaging pupils within an intervention culture

Making it work e.g. chasing missing data from teachers; adjusting for missing data in reports

Routine maintenance e.g. pupil attendance, updating records; compiling pupil reports

Bespoke, dynamic and responsive data infrastructuring

- Allowed for more adaptive and intimate control over how data flowed
- Modelling and reverse engineering DIY algorithms using Excel spreadsheets
- Adjusting systems (e.g. shifting targets, optimum testing frequency, new priorities)
- Expanding systems
  - towards a 'closed loop' model in which data-driven interventions are themselves monitored for effectiveness
  - encompassing more areas of teacher work and school operation
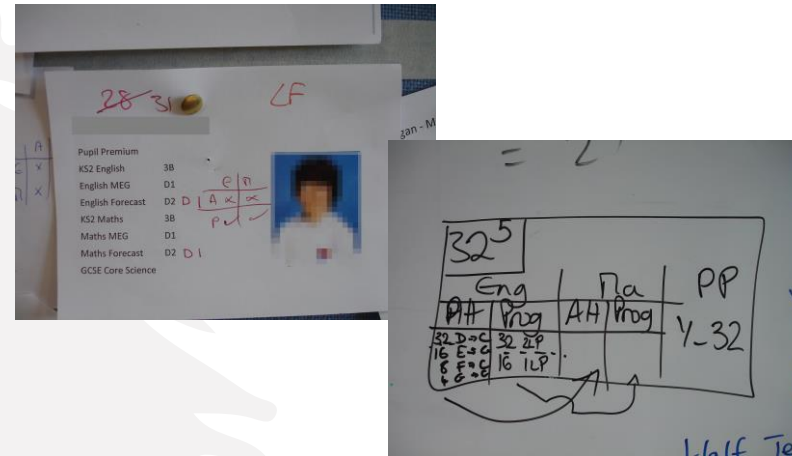
"if you treat this just as a data office, you will limit the scope for what we can do. **It isn't just about 'we'll crunch some numbers and give you some answers'.** We can do that, but that's just a very small part of what we can do

[...] how I see the work of this office is, actually, we find a problem, something that's not being done very well, **we find a process and a system to make it be done better**, we give that system back to that person and that person then does that better"

New kinds of edu-data professionalism and expertise

- Datafication of schooling is not a simple case of automation, compliance or technical implementation of data infrastructures from 'elsewhere'

- Engaging, reflecting on and resolving educational questions

"I've always been a big picture thinker, I always have been, I can't sit and look at the minutiae of something, I have to understand *why*"

- Integrating educational, disciplinary and data expertise to forge new kinds of edu-data professionalism within schools

**"I don't think it's a coincidence that we're both maths teachers"**

Agentic vs administrative data orientations

Edu-data experts with more agentic orientation to data; but not (only or primarily) a technical skillset

Majority of teachers remain ambivalent; treating data as part of routine administrative duties

Characterized by experts as having limited statistical understanding

- Data office produce simplified visualizations and reports to avoid questions and interrogation
- Focus on ensuring compliance with processes over engaging discussing interpretations
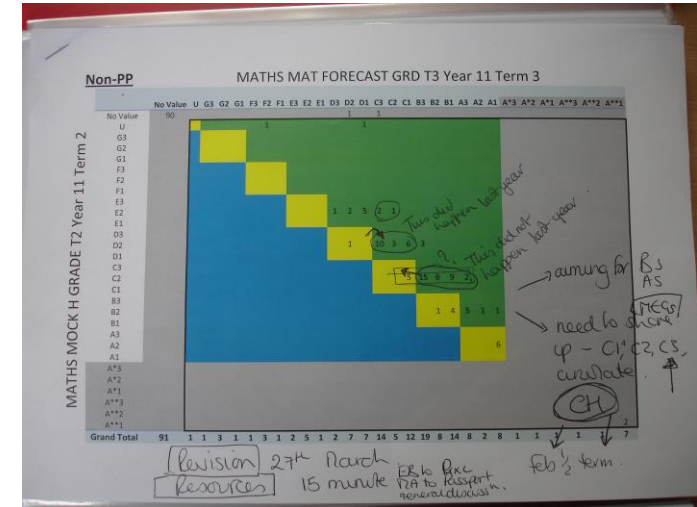
Edu-data entrepreneurialism

Identifying value in integrating education and data expertise and tools

Disseminated through local schools and school improvement membership organisations, and considering commercial opportunities

> **"I do actually believe that you could sell all these programs as a package, but I would never sell them to a school that wasn't prepared to allow us to train them, because I don't want this to be abused – you can't buy it unless you're going to use it properly, y'know?"**

Rise of small-scale educational data intermediaries offering to demystify, 'tame', and critique educational data at the same time as applying it
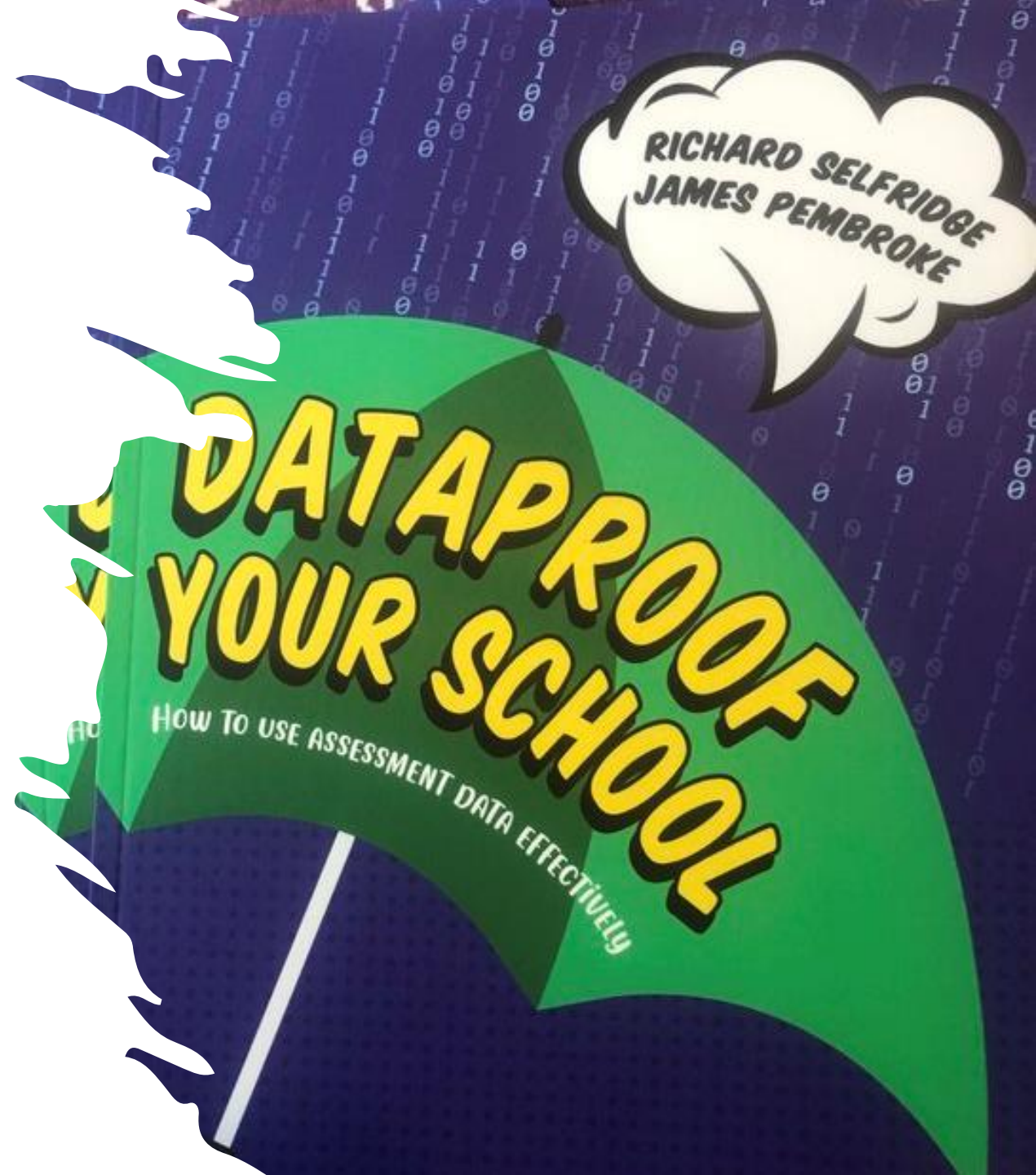
Both expanding and challenging organizational power

- Positioned as edu-data-systems experts, the data office were able to expand influence over increasing area of school operation (staff absence, pupil optional exam subjects), promising efficient, rational and traceable decision-making

- Edu-data expertise recognized and rewarded with staff time, support staff, space, resources, and promotions

- Further influence through school networks and entrepreneurial opportunities

- **And at the same time,** critiquing and acknowledging limitations of edu-data, e.g. successfully pushing back on school inspectors and management performance metrics

Thank you

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