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Governing through Data in English Education

Martin Lawn*

Abstract
In England, over the last decade, powerful technologies and software have enabled a new way of governing education through performance data. This has allowed the landscape of education to be reshaped. Its surface features continue but underneath new connections are made and older relations severed. Data flows travel between schools and central government through private company conduits. The local authority, “City”, studied here in a case study is bypassed and yet still tries to retain a positive local role.

Keywords: data, education, schools, performance, system, city

Over the last 20 years or so, education policy studies have concentrated on describing and analysing a wide range of cross-border policies produced through the constant reorganisations and liberalisations of education systems. The effects of transnational comparisons of education performance, benchmarking and privatisation have been catalytic in the creation of European-focused critical analysis. The creation of this body of work has been partly due to the importance of the Policy in Education Network [Network 23] of the European Educational Research Association since 2002 and its papers published in the European Educational Research Journal. An important project, which emerged from Network 23, was Fabricating Quality in European Education funded by the European Science Foundation and Economic and Social Research Council which linked national projects in Denmark, Finland, the UK (England and Scotland) and Sweden. The project focused on the understanding of quality assurance and evaluation as a form of governance of education, which relied on current social science approaches to the relationship between evidence, data and governing (for example, Bauman 1992; Porter 1995; Desrosieres, 1998).

In common with other European countries, the governing of education in England may be observed mainly through its public policies and policies. However, in recent years a fundamental reordering of education services has taken place through the reliance on performance and quality assurance, and the consequent rise of the need for data. The speed of change in the governing of education in England has been, and continues to be, swift. Change is a permanent process and change is possible because

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of the data infrastructure and technology which underlies it. At the same time, there has been a little studied phenomenon, the almost taken-for-granted growth of data and its use to audit performance and to make constant comparisons between schools, regions and nations and the constant effort devoted to producing more and better system data.

Data are central to modern governance as without data there can be no comparisons of performance or close management of production. The constant and growing use of data encourages a focus on the use of data and indicators as a new “calculative rationality” (Bauman, 1992) of modern governance. The relation between government, state construction and data collection (Porter, 1995; Desrosieres, 1998) and the importance of data in the development and consolidation of the state is known. Data are a way of categorising and governing groups and individuals to make them known and governable. However, the field of education in England has not been known for the depth or width of its education data in the past yet the speed and range of its data collection now surpasses many other countries. This is itself a sign of deep change within the system of education and its governance.

With the rise of data in English education, the state with its partners is able to “see” education in a way that it has never been able to do before. What was opaque to the government in the past is now transparent to governance in the present. Finding new ways of measuring system performance has meant that the state combines its illuminative capacities, “seeing” education, with its visionary aims for the future. Transparency and vision have another effect, known to any student of measurement: what is measured is simultaneously altered. As education is seen [and re-imagined], it is simplified and re-arranged; intended and unintended effects are produced in the system. Education is being re-shaped in an accumulating series of data-produced actions throughout the system, from the teacher, the school, the local authority and the centre, with the help of private companies and specialists.

This paper, based on the Fabricating Quality project, describes the way the English state sees schooling today, as it relies upon measurement, numerical data and calculability. The way the school is “seen” is part of a much wider change in society as a corporate and managerial culture in the public services focused attention on their organisations and their performance against targets. This New Public Management [NPM] had grown since the rise of private sector influence on the public sector, and one of its key effects was the growth of the “audit society” and its emphasis on “explicit formal measurable standards and measurement of performance and success” [Lapsley, 2009:3]. At the centre of public services, and in education in particular, was a new governing process; it centralised all data, created more and made transparent the costs and operation of the service, often hour by hour, not just month by month. New planning cycles, performance targets, service manuals, middle management and, most of all, new accounting software made the public service dependent on data centres in which data were accumulated, sifted and analysed. As data became
the main way in which the system was managed, each part of the system, even small schools, had to become knowledgeable about what numerical data means, how it can be interpreted and how it can be altered. Schools had to analyse a growing number of sources and types of data and make comparisons between their school’s results and other schools, locally and nationwide; between their current and past cohorts of pupils; and individual pupil test results against their past results. Making schooling measurable and calculable in order to improve performance, across their field of activity and resources, generated heaps of data throughout the system and distributed among its new actors, private companies with data-based contracts and consultants with improvement contracts. Governing became imagined as a process of data production and analysis, and the landscape of education as a series of data flows and hot spots of activity: the greater the accumulation of numerical data, the more powerful the process of governing.

“Because we have all this Key Stage Data and because it is longitudinal, we are practically, without boasting, we are probably the leading administration in the world as far as value-added measures and schooling are concerned” (CP5E, 2008).4

Information flowed through the school office to the local authority, through new commercial software systems, at more and more frequent intervals. The local authority [LA] had to change from disbursing resource and information in a piecemeal system, to establishing clear guidelines and performance indicators, about schooling outcomes and value for money procedures.

Numbers, their collection, review, analysis and technologies became the central feature of government policy. Michael Barber, the Head of the Standards and Effectiveness Unit in the Ministry of Education5, heavily influenced by commercial practices (Barber, 2008:87), created the idea of the delivery chain. This idea connected the political [the promise made by a Minister] to the hierarchical series of responsibilities and deliverable targets which enabled that promise to effect change, and to connect the far-flung child to the Minister in Westminster. When the “delivery chain” is supported by data, and performance drives them both, then a new model of governing and of changing systems comes into view. The idea of “real time data” [Barber 2008:87], that is, to produce data constantly about the stages of the “delivery chain” [on numeracy target performance, for example] and to produce it in as short a time as possible, became the goal. Powerful data systems, at all stages, from procedure, input, distribution, analysis and access, connected the vision to the performance, or the politics to the production process, in an increasingly focused and tightly managed way.6 School actors and system actors had access to the data and had to become used to regarding it as evidence about the future; the idea of a policy trajectory, the improving direction, was built into the production process, targets [in effect] became normed. The range of data collection widened constantly, and the speed of collection increased: school and pupil performance data analysis and
interpretation; school context data [e.g. deprivation indices]; statutory target-setting; school census and centralised databases of children. Local authority offices undertook research and evaluation, obtained feedback from parents and pupils and provided guidance and training for staff on the interpretation and use of performance data for setting targets, tracking pupil progress and evaluating outcomes. Data were provided for the individual school, for school clusters or networks, and by geographic areas.

The growth of data is often described in normative terms, that is, it is part of a national or school-based effectiveness or performance system, enabling the different levels or units of education to improve, and to be seen to improve. It is often described within advanced visual and information technologies terms, related to the capacities of information extraction or communication software, or of database functions or possibilities of integration and expansion, and all the time, of opportunity and control.

The following case study is drawn from a larger case study, examining three Local Authority sites in England. “City” is a large, single education authority in a mid-England city. From the mid-1990s, it had reconstructed itself as a Learning City after a period of managing decline, and the education service became focused on school improvement; it then gained some experience of gathering data, initially connected to its own school improvement strategies. The case study illustrates some of the problems faced by a local education service with its own traditions and operational strength when national government overrides them to create a centrally managed system of improvement and performance through massive data collection processes. The daily and seasonal consequences of managing a system designed to exclude them and make the school its focal point can be seen at work here.

**City**

This established and experienced authority had built a capacity to deal with most aspects of data collection, analysis and intervention over the last 10 years. It was one of the first authorities to employ its own research and statistics officer, and to argue locally for the relation between social justice, school improvement and data. Benchmarking progress was a key local idea, before it became a national policy, and so data collection and analytical expertise grew locally, working closely with local education head teachers. Using early commercial software for school attendance, and for assessment records, City began to connect its improvement agenda to its data analysis capacity. Its way of organising, and to a degree even its argument about social justice and improvement, were influential in influencing New Labour thinking on how education could change and be governed.

Today, City has become a clearinghouse, a nodal point in the flow of data to and from schools. Its officers are politically excluded from many elements of the national data management systems. This process began in the 1990s and continued under constantly centralising processes, which were always essential to the effective working of that same system. But the authority is also an actor, it represents a locality: it is a
political entity in education, with its own history, strategy and resources. The position of City, nationally excluded but locally significant, and necessary to the data production process but not responsible for crafting it, creates a range of daily and monthly problems for its officers, caught between the local schools and the central agencies.

The City office is linked in a series. It works with schools within its boundaries, sometimes directly, drawing down data about the pupils or linked to primary school assessments. It works with the centre, either the Ministry or its agencies or contractors, cleaning the data it sends to them and receiving [sometimes dirty or problematic] data in return: in this relation, it is an outsider, excluded by structures over time but practically essential because of its expertise, its trustworthiness locally and its role in supporting processes. The City office represents a significant actor, the city, because of its tradition and expertise; the city has its own democratically decided and influenced local education policies. Also, its daily work reinforces the emphasis on performance and its data, giving access to school performance data, reports for previous years, school comparative data and LA performance data.

The city had a past that still shadows the present: from the mid-1990s, it had made a big effort to create its own data about local school performance. Its performance data, produced to aid the city’s intention to improve its children’s learning and social justice, was used for monitoring, evaluation and planning.

We were able to connect it to school performance ....... we believed in improving on our previous best and at the heart of that is formative assessment. .... It seemed to me that if you used data really well, within the schools, you would encourage teachers to know where their kids were in relation to their own previous best i.e. the kids’ previous best and they’ll be using comparative data in their minds. And enabling the kids to really move on and have a bit of ambition of these kids moving on. Rather than “well we’ve got a bad year group” [Officer B:14].

We used data absolutely internally to improve on our previous bests and to create groups of schools into families of schools according to socio-economic inputs and ... their previous performance and then arranged them in families so that there would be a family of 20 primary schools [across the city] [Officer B:17].

[City] used the data it created not to rank the schools but to encourage them to improve. The data was meant to encourage change from below [Officer B:18].

The city began to use “collective comparison” processes, within their schools, departments and the Authority. Comparator schools, often spatially widespread, began to work together on their performance. This locally created policy began to change when the New Labour government developed a standardised national system, replacing local systems of data collection and management in 2003.

It was probably 5 years ago [2001] when the [Ministry] with OFSTED [the central Inspectorate] started to look at common systems for assessing the performance of schools that would be available in electronic format where you can drill down not only to the level of school performance but also in terms of groups of students and they could do this now because of the data collection systems which collect data at a pupil level. So [in 2001] they were looking
at how they may do this and three years ago they produced their first version which they called the “pupil achievement tracker” ... it wasn’t a perfect system by any means and there were some problems with actually running the software. A lot of the data had to be put in locally which put a lot of schools off in the first place but that was the first time that there was any national system for analysing data which was more than just having school league tables. Basically what we were doing in [in the city] could be done nationally [Officer C:2].

The last point is of interest. As City had created its own data systems from the late 1990s, ignoring school league tables and rankings, and focused upon citywide school improvements, its policies and practices began to influence the central government. The idea of the school and pupils’ “previous best” to improve city education was absorbed nationally and turned into a national system of targets and benchmarking, managed through a complex system of data collection.

The national online data analysis system for schools and local authorities “Reporting and Analysis for Improvement through School self-Evaluation” [Raise Online] was intended to be used for analysing school performance data and was introduced in the autumn term of 2006 by the Ministry. Produced together with Ofsted, the Ministry aimed to combine streamlining the provision of data analysis to schools by merging the Performance and Assessment Reports with the Pupil Achievement Tracker into the new Raise Online.

They are attempting to get every single school in England, primary and secondary, thousands of schools, all the data at an individual pupil level in a massive database held on a server somewhere in London which then is accessed by all the schools in the country and OFSTED inspectors, and school advisors and other people, in order to analyse the data [Officer C:3].

Not only was this big machine built to integrate most forms of pupil data in a form available to education officers and schools, but its scope and ambition increased as well.

The data that comes in from the schools is not only the attainment and assessment data but it is all sorts of data about their gender, ethnic group, age, date of birth, school history, special educational needs, and even weight. All the schools have data systems that we can collect on a central basis joining up with other data that we get from other systems and then use for planning, needs assessment, commissioning, performance reviews [Officer C:12].

The machine once created was not static and stable, it was constantly redesigned and in flux. Managed by technology experts, it was driven to offer new specifications and new possibilities of data management and reach. The central government, in creating a delivery chain to meet national targets of improvement, had produced a new version of the education system. Data flowed to the centre, aided by local authorities. The Local Authority had become an agency or contractor or stage in the delivery process, making sure that the chain worked, and at the same time, had lost their decision making over the local aims and performance in their own City.
However, City still has its own political interests, a continuing strategy of city improvement and a culture of comparison and continued to work on its education data. Because we have a history in [the city] of data analysis, we are still continuing with that and as the national developments are happening, I am making decisions now on an annual basis in terms of programme and work. There are things we don’t do now because it is just duplicating what is available nationally, [but there are] things we need to continue with [Officer C:2].

Although the city has expertise and a developed relation with schools, over time its room for manoeuvre on policy has become limited. Its technical expertise, and its grounded organisation of data processes, was crucial to its new work but now it had to cope with the fact that it did not manage its own school improvement policy or the rhythm of data operation. The ambitions of the government drive the rhythm of schoolwork and if national systems do not work, then the city is trapped in some ways between its schools and the centre. This can be seen within the explanation of the key City statistical officer in education; the situation is difficult to describe and untangle but the point is clear – City is at the mercy of massive ambition and technological imaginaries which treats it as a servicing point and not as a responsible partner.

The [Ministry] is saying we will give all your 2006 data analysis in the autumn term ... at a school level. We are now at the end of the autumn term and there’s no 2006 data in it at all. So it completely failed, massively failed to deliver that. The consequences are ... that for this year this tool is useless as a self-evaluation tool. So all that it will be used for this year is for an external accountability. Because often inspectors have access to this information, so [it will be used] for inspections that are done next year. They are saying because this is going to be closed down end of December and that will mean in order to give them time to put the 2006 data up. But schools say to us we’ve done all our data analysis for 2006, we set all our targets, we are doing our plans, it is no use. So the credibility of this national system will be dependent on two things, how accurate the data is and how soon schools get it. The problem at the moment is this, it is too late and even when the schools get it in January it is still going to be based on not fully validated data [Officer C:3].

The Office is trying to manage the space between the central government and the city. It has become a sort of broker in a set of uncertain relations. Generally, with a lot of effort, it can resolve most problems within its boundaries; this is done through personal relationships, helpful support, clear documentation, tailored city systems etc. In reality, there is no direct relation with a central government, but a series of contracted, mediating arrangements with private data companies, working with the Ministry. It is a frustrating situation to be in, they cannot influence the centre. Even when things go badly wrong, their suggestions may not be welcome. The Local Authority has been reduced and displaced. The centre wishes to work directly with schools. After one debacle, they said:
They wanted to control it but they couldn’t, it was too big a job. How many schools are there in England and they are trying to manage this – by paper and post etc [Officer C:13].

I actually emailed all the things that the [central] helpline should have known to actually sort it themselves. Generally, it tends to be [when] something really goes wrong triggers it off - because we know that we are not going to change their mind about what they are doing generally – we have tried in the open meetings ... but they have been told that they have got to do this [Officer C:6].

This relation is affected by the turnover of Education ministers and, certainly, by the turnover of advisers. City works with personal relations or local, professional obligations, and this is how things get done: daily interactions in managing the education service and improving it.

You can’t build a personal relationship, you could get on the phone with somebody – like people do here in the city with you ... working relationships in the city are generally more stable. To be honest it is harder to speak to somebody on the phone at the [Ministry] – it does tend to have to be an email or the helpline and you filter through and then they get somebody to ring you back [Officer C:6].

At the same time, while the centre is organising new technological solutions and new contractual relations with data companies, to manage the growth of data in education, City has a history of development responsibility for its schools, and long-standing deep relations with them. The new direct relation between the centre and the school, envisaged in this construction of data production and flow, denies the role of the LA. The LA represents the old democratic relation of the centre and the local, each partner democratically validated. This landscape has been re-imagined as a set of data flows, with responsible agents passing data back and forth. While this is the new discourse of education and its governance, City still does not intend to be excluded. Its arguments are not the old ones – our schools – but the new one – our responsibility for improvement.

The reason why we will not allow ourselves to be excluded is that our role in the... Unit is to support schools in any way we can whatever they are doing ... that’s what we carry on doing - we wanted to do that anyway but now we have the systems to enable us to do [it]. [Schools] know that in the past cos we are so helpful to them that if something goes wrong we are the first ones they phone up because half the time you can’t find out who to ring in the [Ministry] or you don’t get a reply or they don’t understand what you are talking about [Officer 2 p. 23].

Performance and technology have not created a new seamless, governing relation, nor a stable imaginary of education, with its metaphor of flows. Helpline culture and contract workers have not, in this case, substituted for a direct and supportive local relation.
Private companies on contract for specific tasks manage data flow. Some companies are becoming dominant in this area of commercial education, for example, Capita, which states that it delivers software and services to 146 local authorities, for the management of their Children’s Services data across education [there are approximately 152 in England]. The massive rise in data, the speed of its circulation and the huge amount of skilled and unskilled labour involved in moving it successfully means that new private actors have contracted out significant elements of the assessment and recording parts of the “delivery chain”, in both directions. Data run through private conduits between schools and the centre. They are sent from the school and eventually viewed, sometimes literally viewed, on giant monitors, at the Ministry before they return to the school. So, for example, a consortium of companies led by a company called Forvus, was awarded a major data services contract following competitive procurement. The contract was for processing the data for the National Pupil Database/Achievement & Attainment Tables (Performance Tables). Forvus has been responsible for processing the Performance Tables data since 1995. The work required is extremely complex and involves the collection, processing and checking of data from over 50 different data suppliers, relating to 8 million students and 21,000 schools. Forvus regards one of its strengths as its pioneering work on data capture and cleaning.

Maximising management information and performance data is increasingly seen by educationists and policy makers as one of the key means to continue to raise performance standards. Moreover, this example demonstrates how our specialist data services can help organisations across the board to maximise the value of the data that they possess [Forvus, 2006].

These big contracts are for the transportation of marks, numerical marks, on digital sheets. A simple idea. However, there are several contracts and several big companies and, although they occupy different parts of the delivery chain, they do not work together.

And then they really messed it up, they had a company in doing the collection which might have been different to the other companies doing the collection ... so again you’ve got all these big companies blaming each other – one’s responsible for one thing, one for another [Officer C:19].

City finds this system confusing, and so do the schools. They try to help even when they are not supposed to be involved and have been excluded by the software and its codes.

If something does go wrong, even though we are not supposed to be involved, we get the phone call [from the school] and we don’t say it’s not our problem, we sort it out – [Officer C:22].

This not a story about data getting lost when passed from place to place. As office work and company/LA histories would show, this is normal. Files get lost, somebody is transferred, something is overlooked – this is normal in office production. This is not a story about technology – how it goes wrong, simple ideas become technically impossible to produce etc. It is a story about a data production process that has been...
designed to exclude one of the old core partners in the education service, the LA, and to replace it with a contracted company. The school still sees City as the legitimate and helpful local guardian of education in the city. It is still locally visible. The company has no view of City at all except as an organisation which may help to sort some data flow and validity problems – when absolutely necessary.

The concluding comment stands for this general relation:

We weren’t part of what they were planning, we couldn’t tell them they weren’t doing it properly cos we were not involved, they were doing their own thing again, you see it always seems as though they are introducing new things and when it goes wrong, we were picking up the pieces, finding out the problem and then telling them about it [laughs] and how to do it [Officer C:22].

The political effects of the new relation between local and central authority also has significant sociological effects. Each shift in the technological capacity or data demand produced by the government, and worked through the often private agencies, excludes the city specialists, or reduces them to data transmitters, and confuses the relation between the schools and the city. Older relations are still present, alongside the new skills and responsibilities for school data work, and they intervene in the “delivery chain”. Telephoning between office and school, and vice versa, is continual [at certain times of the year] as information needs to be checked and clarified. This happens because of the subsidiary service demanded of the City office and also because it wants to know what is happening or to help out.

Education is data-driven yet it is in tension with an experienced sense of its possibilities compared with the realities of dismissive controls, careless agency work, and school practices.

In City, its efforts go into data management and increasing its local value. Without the hard work of the office, data cannot fulfil their governing and performance functions. There are physical, expert and contextual processes which enable them to flow; without them, flow is halted. Data easily jams and this demands sophistication of use from people, they manage data, and argue about it, to widen their space of manoeuvre. Data is constantly re-imagined. People re-engineer its flow paths, its constituent objects, its protocols and its manuals. This is partly problem based [policy and material problems of flow] and partly, a related scientific imagination [the capabilities and potential of data and systems]. It has to be coded to flow. Without coding, it is either not data or it is local. Flow demands constant engineering and physical effort from many actors. The metaphor of a “delivery chain” simplifies this process and turns it into a symbol of the new education order, and at the same time renders the complex processes and crude interventions which keep its working invisible.
Conclusion

This paper has briefly explored the way that data have reshaped and imagined the landscape of governance in education and, in so doing, has redefined what education is and how it performs. The paper has also explained the way that the governing metaphor, drawn from new technology companies, hides its practical working, and this actuality of data work has changed the relations of the education system radically. The present has been simplified and rendered governable and, importantly, the system has been re-engineered and looks towards the future. System data reveal the present and its future trends and, as data are linked toward performance and organisational change, they are turned toward action and behavioural change. Change is driven by comparison against the past and competitors.

The subject, governing by data, may be viewed within the policy studies of education, linking data, as a subsidiary element, within the school improvement field of English New Labour governance. In this paper, governing education is viewed as having significant and continuing material and work effects. It turns autonomous institutions of education into sites of production, within a “delivery chain” of results and heightened interventions, it redefines relations, introduces private companies and re-skills those involved. Data are digital and flow across the landscape of education, changing it as it moves. It does not have the milestone significance of major policy acts in education but it deserves study as it is changing the landscape of study significantly but in barely visible ways.

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**Endnotes**

1 Professor Lisbeth Lundahl has played a major role in EERA as a past Secretary General, and as a Convenor of the Policy Network.

2 “Fabricating Quality in European Education Systems” [Fab-Q] ESF 05-ECRP-FP021

3 The UK project (England and Scotland), “Governing by Numbers”, is nested within FabQ

4 Extract from a senior central policy actor interview. ESRC Governing by Numbers

5 The Ministry of Education has had several titles over the years, the Department for Education etc. In this paper, it is simply referred to as the Ministry

6 Barber became fascinated by data and used this model in his next move to head the Delivery Unit, a special unit working for the Prime Minister, dealing with delivering change across the public services. Barber, M *The Story of the Prime Ministers Delivery Unit* Santiago, Chile – July 2010 [http://www.scribd.com/doc/34941284/Delivery-Unit-Michael-Barber](http://www.scribd.com/doc/34941284/Delivery-Unit-Michael-Barber)
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